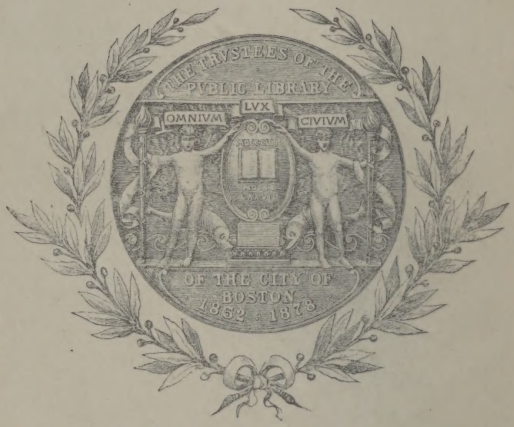

HOW TO IMPROVE YOUR VOICE

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Modern Theory and Practice for SINGERS and SPEAKERS

BY

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To

VIDA TERESA BENNETT

HEAD OF THE PIANO DEPARTMENT OF
THE KRASNOFF SCHOOL OF MUSIC;
A LOYAL FRIEND AND
DILIGENT PUPIL

THIS BOOK
IS
DEDICATED

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"In the long run men hit only what they
Aim at . . . .
Therefore, though they should fail immediately,
They had better aim at something high."

HENRY DAVID THOREAU

INTRODUCTION

It is very likely that the question uppermost in your mind as you are about to begin reading this book is, "What is the correct method of Voice Development?" Every teacher in reality has his own way of training the voice and could, if he wished, call it his METHOD. Thus it is not surprising that authorities on Voice generally speak of their ideas on Voice Production as their methods. We are living in a semi-barbaric, semi-civilized era, where the idea of 'rugged individuality' has become so implanted in the thinking processes of even a great many of our scientists that they regard what they write as primarily some commodity that they possess and must offer for sale. In presenting their books, these writers subconsciously take the attitude of the manufacturer of a late model of automobile—"Mine is the very best," etc.

In outlining what seems to me a rational method of voice training, I merely try to state in my own way, as clearly as possible, what I consider to be the truth, judging from all available data that I could find. I have read numerous books on the subject and have examined the re-

ports of modern scientific investigators. I have considered the experience of voice teachers in general, to say nothing of my own practical experience. In making my deductions with regard to theory on the subject that I consider my life's work, I trusted the only judge in the world who really cares to bother helping me make correct decisions, and that is 'my reasoning power'.

To you, my reader, I submit my conclusions. Should you find that *I have helped you* in obtaining a better solution in your problem of improving your voice, I shall indeed be happy in the thought that I have succeeded in my task of showing you a CORRECT METHOD OF VOICE DEVELOPMENT.

THE AUTHOR.

CHAPTER I

Why This Book Was Written

1. Qualifications of the efficient teacher and the intelligent pupil.

THE voice specialist, in order to become expert in his work, must undergo intensive studies in such subjects as physiology, psychology, physics and music. He must not neglect philosophy, the only study that attempts to examine and consider the knowledge and causes of all phenomena, both mental and physical, and the relationship between all the different sciences. The reader probably has noticed that a great mathematician often says something childish about, let us say, psychology or perhaps music, or that a musician says something absurd in discussing physics. No one, of course, can know every subject thoroughly, or all that there is to know about the relationship between one branch of knowledge and others. Nevertheless, the least we can do to overcome this difficulty is to try to get some conception about 'philosophy' or the 'science of all knowledge in

general', to safeguard ourselves from saying stupid things the minute we try to express ourselves on some subject outside of our own particular field.

The voice teacher, then, like all teachers, must be a philosopher as well as a scientist. He must also have good taste and a fine ear. If in addition to these things, he possesses the experience and ability for correct practical application of his theoretical knowledge, he then becomes the ideal artist-teacher.

The voice student, providing he has an intelligent mind, a good ear, healthy vocal organs and musical talent, need not worry about the natural quality of his voice. On this point most modern voice specialists agree. In the words of one of them, "Such statements as 'my voice is not good enough to train', or 'I am too old to learn' are now considered 'just bugaboos'." I wish to emphasize the importance of the fact that if you have a good ear, musical talent and healthy vocal organs, your 'quality', 'volume', 'range', etc., can be developed to such a degree that you may reach far greater heights than some one who merely has a 'sweet natural voice' and is even earning his living with it without ever having taken a voice lesson. It is true that between any two voices there is a difference of natural quality or what is known as 'timbre'. The same can be said about any two

violins. We know that although two violins may be made of the same materials, one could be worth a hundred dollars and the other might be a twenty-thousand dollar Stradivarius. At the same time we also know that if Jascha Heifetz played a concert on the hundred dollar violin, there would be very few people who could detect the difference in the tone quality. On the other hand, the mediocre violinist would not benefit much in obtaining a better tone even if he were playing on the finest Stradivarius. If you have the other requirements mentioned, you need not feel discouraged if you do not possess a 'beautiful natural voice', because you *can learn to use your voice beautifully* and thus become the *possessor of a beautiful voice.* This is absolutely in accordance with the latest findings of scientists who are continually conducting research work on this subject, and it should be a word of great encouragement to the intelligent student of voice.

Undoubtedly the first thing a voice student should do is to find a good teacher and follow his instructions. But no intelligent man can be satisfied with merely following the routine prescribed by his teacher. The more intelligent he is the greater will be his desire to do something for himself. He will see that 'tone production', or 'improving the quality of the tone', presents the

greatest of problems. He will also discover that it is precisely on this question that there is the greatest conflict of opinion. His teacher, if he is efficient, will probably tell him to practice very few technical exercises for the first ten or twelve lessons, at least, and he will, therefore, have plenty of time to think about the subject of voice and find that much of his time can be profitably spent in studying 'theory', or, in other words, obtaining a fund of information that will lead him to a better understanding of the problems involved in his studies.

2. The intelligent pupil selects a good teacher.

Let us assume, for present purposes, that the writer is a good voice teacher and that you are an intelligent pupil about to begin the development of your voice. You are very anxious to 'get all you can' out of your lessons. You are also eager to do your utmost to help yourself when you are not with me. On my part, I am equally anxious that you should obtain a clear understanding of the problems involved in the training of the voice without being compelled, like the voice teacher, to read numerous books and carry on research in the sciences which are the fundamental bases of the study of the science of voice.

As you enter into my studio and inform me

that you wish to take voice lessons from me, I ask you, "Why do you wish to study voice?" You answer, "Because I understand that voice training not only improves both the speaking and singing voice, but that it also enriches the entire personality of the student, mentally, physically, spiritually or in any way that you may care to look at the individual."

"You are correct," I remark. "It is also a fact that man in his pursuit of happiness is hindered by 'fears', 'nervousness', 'restlessness', 'inferiority complexes', etc., that are caused by certain forces that prevent him from realizing adequate self-expression. On the other hand, a cow is more contented than man because of its ability to accept and adjust itself to its environment. But who would like to exchange places with that animal? The intelligent man realizes that he need not feel crushed by apparent drawbacks, and in his heroic efforts of changing his environment he discovers that he is incidentally changing himself, and therefore is capable of reaching the greatest heights. He realizes that his voice is a powerful weapon, the development of which will greatly aid him in combating the problems of life."

You ask me, "Isn't it true that from the physiological viewpoint the development of any muscle has a beneficent effect on the general 'tone' or

health of the body and that therefore it is good to exercise the vocal organs?" "Not only that," I reply. "The important thing to remember is that the correct use of the vocal organs assumes the proper use of the breathing apparatus. Consequently, good singers and speakers, by continually exercising their voices correctly, become 'good breathers'. Not very many people seem to understand the significance of the value of correct breathing. One of America's great medical authorities says that, 'One generation of correct breathers would regenerate the race, and disease would be so rare as to be looked on as a curiosity.' I do not know how close to exact truth that statement is, but I do know that it is absolutely necessary to possess good health in order to have a good voice, and that correct breathing is just as essential to good health as proper diet, rest, sufficient exercise, fresh air and sunshine. Correct singing is one of the finest breathing exercises known."

"Now I should like you to tell me why you chose me as your vocal teacher."

You reply, "In the first place, I listened to some of your lectures illustrating the way you teach and explaining the general principles upon which you base your method. In the second place, several of my friends in whom I place great confidence have recommended you highly. In the third place,

after meeting you and talking with you I instinctively feel that I would enjoy working with you. Therefore, I intend to study under you as long as we both find that it is to our mutual advantage."

"Do you base your judgment of my ability as a teacher partly because you have heard me or my pupils sing and like the way we sound?" I ask.

You answer, "Frankly, I do not. Is it not a well-known fact that a great singer would probably make a very poor teacher?"

"You are quite right," I remark. "Opera singers who are successful become so because their special psychology enables them to thoroughly concentrate their attention on their own voices. In most cases they have not the slightest conception of many of the problems of the singer, because things that are difficult come to them instinctively, and they often make childish and absurd statements in trying to explain how their own voices work. The singer who teaches as a side-line while waiting for his chance to appear in opera can not have the proper attitude toward teaching as a life work. If he commences teaching after he is too old to sing in concert or opera, his psychology becomes that of a 'has-been', who bemoans the passing of the 'good old days'. This kind of a teacher usually labors under the delusion that because he can no longer be a great singer, he can suddenly, in spite

of his lack of experience in teaching, transform himself into a great voice teacher. Furthermore, a musical genius would become great regardless of who his teacher is. As for judging the ability of a teacher by listening to the work of his pupils, there are so many factors to consider here that the student of singing would not be in a position to form a correct judgment."

"Let me give you an example to illustrate one of the points we have just made. One of our great opera tenors submitted himself for an experiment to a man who is making the study of the science of voice his life's work. This scientist asked the singer to tell him in which position he thought the tongue should be when singing the vowel 'ah'. The tenor, being the product of some maestro of the old school, replied, 'The tongue should lie at the bottom of the mouth as flat as possible in producing 'ah'.' He assured the specialist that his own tongue was always in that position during that particular act. After about six X-ray plates, which indicated that the tongue was far from lying in the position in which the singer thought it was, had been made and shown to him, the tenor simply said, 'Bah!' and walked out in disgust. He refused to believe his own eyes."

Let us suppose that after you have definitely declared that you thoroughly understand the

qualifications of the intelligent pupil and the efficient teacher, you decide to learn all you can about the theory of voice production in as short a time as possible, and go to the public library to read the latest books on the science of voice.

Probably one of the first books to attract your attention will be one written by some world-famous authority. Perhaps his book will intrigue you all the more owing to the fact that on the very first page is a photograph of Caruso with a letter to the author praising the book. What more could you wish? Everything the writer says seems to be logical and after you have finished you think you have a satisfactory understanding of the subject of voice. Supposing that you are the kind of a man who is not satisfied with just reading one book on a subject of so much interest to you, and you decide to read another one by some other eminent authority. This time you select the book because it is written by a professor of voice in one of America's best-known universities and a teacher who has had a great deal of practical experience in his field. Imagine your surprise when you find that the statements of these writers, not only on complicated questions but on what apparently seem to be simple fundamentals, are so conflicting and opposed to each other, that either one of these authorities must be an ignoramus or they are both

just guessing in their explanations in spite of their admittedly practical success in training pupils. Then you commence reading a third book, this time one by a scientist who has spent years in laboratory research work, has trained many singers and is undoubtedly one of the leaders in his profession today. This book just came out recently. In it you find many explanations of the things that puzzle you. You are greatly impressed until you run across such statements as follow: "I have read practically all the books written on the subject of voice by modern writers and can find nothing of any value in any of them"; or, "Some teachers who have read my book claim that they have been teaching the same way that I do, but that they came to the same conclusions through their own experience. This is not possible since only by much scientific and experimental laboratory research did I discover the truths expounded in my book," etc., etc. In other words, every teacher in the world except this particular author and his pupils is wrong in his method of voice instruction. There was a time in the middle ages when scientific experiments and investigations were done secretly, and it would have been possible then that only one man would be entirely right on a subject such as voice, since most of the scholars of those days were only learn-

ing what was permitted by the strictly conservative followers of old traditions. But now-a-days, when scientists of all countries compare their findings, and research on voice is carried on by many serious students, it is absurd for a writer on voice to take the attitude that his 'Method' is the only true and scientific method of voice production.

After reading a few of the books, then, you come to me, your teacher, and say, "Since each of the great authorities implies that his is the only way of understanding the science of voice, and since their statements, even on fundamentals, are so conflicting, I would have to read numerous volumes of books before I could form concrete opinions of my own. Even then it would be very difficult for me to know when I am right and when I am wrong.

"Is there not some book written by someone who does not claim to be the author of a 'sacred book of voice', but who has had practical experience in voice training, has studied the sciences pertaining to the study of voice, has conducted investigations, has read the books of other writers, and in his own book has not condemned those who do not agree with him but has tried to explain the reason for the often only apparently conflicting ideas in voice culture? Is there not some such book written by a teacher who gives the stu-

dent a clear understanding of what is actually known about the science of voice without going into long technical discussions of the sciences of acoustics, physiology and psychology that are of no value to anyone except the voice specialist, who can get all that information in text books on these subjects? Would not such a book, written in as simple and concise a form as possible, be just what is needed by the present-day intelligent student?"

My reply to you is, "If there is any such book, I have as yet not been able to find it; and that is the reason why this book is being written."

CHAPTER II

Tone Quality

IN the preceding chapter I said that 'tone production' or 'improving the quality of the tone', presents the greatest of problems, and I may also add 'the most important of all problems in voice'. I also said that tone-production is the least understood of all vocal problems. One reason for the prevailing confusion on the subject is that although the voice is produced not in the head, the chest, the nose, the front of the mouth, the back of the pharynx, in the masque, or in the left eye-brow, but primarily in the larynx, or exactly in that part of the throat where the uneducated uninformed layman would expect the voice to be, yet, for many years most vocal teachers were taught to tell their pupils to 'place IT' in the front of the mouth, focus IT here and focus IT there. In the Russian language the word 'focustnick' means a conjuror or magician; and in the light of scientific research and discoveries I now plainly see that many teachers, being afraid of making singers sound 'throaty' by telling them the

truth that the voice is in the throat, and knowing little of science, were compelled to use magic. Only in recent years, through the aid of intricate electric and photographic devices, has it been possible to arrive at some scientific facts in connection with the mechanics of tone production. Even at that the available knowledge is strictly limited. Many technical difficulties as yet unsolved prevent the investigators from collecting sufficient data to give us the exact 'laws of tone production'. We still have to employ a certain amount of magic. However, even before scientific research was seriously undertaken by our modern specialists, there were some very fine singers and good teachers. These men without modern scientific knowledge still possessed natural pedagogical ability, excellent ears, good taste and fine musicianship. Therefore, we need feel no unnecessary alarm at the small amount of our scientific knowledge, but must learn to use it to the best advantage.

From the above I hope that you will clearly see why the problem of tone production is so much more difficult than, let us say, that of note-reading, harmony, rhythm, diction and musicianship in general. On all other problems pertaining to the study of voice there is a wealth of indisputably fine literature extant and a great deal of agreement on most things in general among the

different authorities. In the realm of tone production there is truly a chaotic state of affairs.

Now, I wish to point out why 'tone production' is the most important of all problems involved in the study of voice. By 'tone production' I mean 'a method for continuous improvement in the quality of the tone'. Those who knew Caruso intimately say that through his entire career this great artist constantly labored to improve the quality of his tone. Memorizing parts, their interpretation, problems in musicianship and dramatics, pronunciation of foreign languages—all these things come surprisingly easily to talented singers. But the only way, it seems, that an artist can overcome the fear of losing his voice is by constantly seeking to improve his tone-quality, which means the correct exercising of the vocal organs; or, in other words, the serious striving for the perfect technic in 'tone production'. And when I say 'perfect', I mean perfect. I am well aware of the fact that perfection is unattainable. Nevertheless, we must realize that only by striving for the highest goal, which is theoretical perfection in all things, can we hope to come anywhere near our ideal.

On the other hand, take the student, badly misinformed but not necessarily unintelligent, whose highest ambition is to sing cheap music in

cheap places simply as a course of least resistance in earning a living. That student is generally worried about how to memorize many songs. Problems of learning a whole part of an opera, a foreign language, harmony, sight-singing—these seem to him the great difficulties ahead in a serious career. As for tone quality, he depends a great deal on his 'fine natural voice' and often prefers the chesty tones of the blues singer or the falsetto of the radio crooner to a well-developed voice which to him seems unnecessarily loud. He is quite sure his own voice can never be developed to possess volume because he has been singing softly and what many people consider sweetly; and besides, he has been told that such a voice is best over the radio.

There is a modern authority who writes in his book that there is no such thing as the problem of tone production. He is one of the nationally famous voice teachers and he bases his claim on the following hypothesis. To him, 'speaking and singing are fundamentally the same'. Therefore, if a singer would learn how to pronounce his words properly and sing his songs with the proper interpretation, both from the musical and dramatic viewpoints, the natural quality of his voice would show to the best advantage, and then all that would be necessary for him to do is simply

to seek improvement through becoming a better speaker, actor or musician. To this author a coloratura soprano is not a singer but some kind of an 'abominable mechanism', chiefly because she uses so few words.

Fortunately, the more scientific voice specialists do not take such statements seriously. To prove that this authority is wrong is easy because his entire theory is built on a false hypothesis. It is true that 'singing and speaking are fundamentally the same'. So are a glass of water and a cake of ice. Water does not possess the properties of solids. It can easily be turned into ice but until it is, it is not the same as ice. For practical purposes two things can be entirely different, although fundamentally the same. An intelligent man with a well-developed speaking voice and good musicianship could undoubtedly be developed into a great singer but not without studying and practicing tone production. Even a genius like Caruso, who had one of the very few voices that seem to be almost perfect, was no exception to this.

Thus, it is plainly seen that a serious study of 'tone quality' is most important for the student of singing and is undoubtedly one of the greatest factors in the development of the speaking voice also. The next questions to be considered, then,

are just what is tone and what is quality? These things I shall now attempt to explain.

Ask the average students of voice what a tone is or what quality is and you will be surprised at the lack of definite understanding as evidenced by their vague and hesitating answers. Many of them say, "Oh, I know what it is, but I just can not put it into words". There is a school of psychology which says that that which you can not put into words you do not understand. According to that, a bird does not understand anything about the nest he is building. I am not so positive about that, but I do know that until a bird learns some kind of a language that we understand, it will be difficult to find out with absolute certainty whether it has understanding or not. On the other hand, a physicist writes a whole book explaining tone, and gives you many interesting facts and figures on the number of waves per second in the different tones on the piano and other technical information that is of no special value to the student of singing, although invaluable to the voice specialist. In my explanation of tone, as well as other natural phenomena pertaining to voice, I try to cut down technical language to the minimum and give only that which I think is indispensable to a proper understanding of voice.

What is tone?

The dictionary says that tone is sound and that sound is the impression made on the ear by vibrations in the air. To get any further information we must look into the science of acoustics, which is that branch of the science of physics pertaining to sound. Here we are told that a vibration in the air is made by something that moves to and fro past its point of normal rest. If may be a piece of metal, or a string like the one on a violin, or perhaps a living string like the vocal cord, any one of which can be called a vibrator. As the vibrator moves rapidly, it compresses the air close to it as it advances. At the same time the air behind it, being relieved of the pressure, becomes rarefied. These processes of compression and rarefaction following one another rapidly constitute what are known as air waves. These air waves are not air currents; that is, they are not particles of air that are driven away from their original place of rest by the vibrator. Imagine a row of freight cars. If you give the first car a push, it will transmit the shock to the following car and so on until the last car receives the push you originally gave to the first one. The first car does not go all the way through to the last car to deliver your push. Understanding this principle will make it easier

for you to see that the theory of so-called 'vocalized breath' is fallacious. According to this false theory, 'sound travels on the breath as an air current'. In other words, 'sound is carried on the breath'. Since sound travels at the rate of about 1200 feet per second through the air, and the air itself leaving the lips travels at a very slow rate—only a few inches a second—you may as well learn now, if you do not already know it, that singing or speaking is not 'vocalized breathing'. This will make it easier for you to understand the true relationship between singing and breathing.

The number of vibrations per second determines the pitch of the tone. For instance, middle C has a frequency of 256 vibrations. If a given vibrator, let us say a piano string, were to make 256 complete vibrations per second, the tone produced then is called middle C. Upon careful scientific investigation it has been found that in addition to the main sound which is C, called the pitch or 'fundamental', there are other sounds present. In other words, the tone is not simple but complex. With some training and patient practice, (if you have a good musical ear), you can soon hear those other sounds yourself. These other subordinate tones that are heard when any tone is made are called 'overtones', 'partials', or 'harmonics'. The reason for them is as follows:

The vibrator not only vibrates as a whole, but every conceivable fraction of it vibrates by itself, as it were. Thus, if we imagine the two halves of the middle C piano string vibrating by themselves, it is found that each half would vibrate at the rate of just double the amount of complete vibrations or cycles; that is, at 512 cycles per second, and that the tone produced by each one is the C one octave above middle C. Thus we see that doubling the frequency raises the pitch one octave. If we experiment with thirds of the string or any other fraction we soon establish the exact relationship between pitch and frequency. Now that we understand the meaning of 'pitch', we note that the same middle C piano string can be made to sound loud or soft. We have to pluck the string harder to make the louder sound. Each sound wave consists of a compression and rarefaction of air. In the language of physics, the 'amplitude' of these waves, which is their width or height, determines the 'intensity' or loudness of the sound. Thus we can say, then, that the number of sound waves per second determines the pitch, and the magnitude or amplitude of each sound wave determines the intensity or volume of the tone. In addition to pitch and intensity, sound has one more important characteristic that needs explanation and that is 'quality'.

We play the middle C on the piano, and from the above explanations we have a conception of the reason for its pitch and volume. But what gives it its quality or 'timbre'? In other words, why does middle C on the piano sound different from middle C on a brass instrument? If the number of vibrations per second is the same and the amplitude is the same why should not the sound be exactly the same? Or you could have two pianos built out of the same materials, and unless you built them both exactly according to the same plans there would be a noticeable difference in the quality of the sounds produced by them. From the physical point of view, the quality of a tone is determined by the relationship between the intensities of the different partials, (or overtones), and the basic or fundamental tone.

To make this a little easier to understand for those who are not familiar with the exact meanings of 'overtones', 'fundamentals', etc., I shall give the following illustration. Middle C is the pitch of a given sound of, let us say, a piano string. The vibration of the entire string then gives us the fundamental or most prominent 'color' that we hear; that is, the middle C. Theoretically, every conceivable fraction of the string vibrates by itself, but we do not hear all of these vibrations, for most of them are too weak. It would be as if

some one suddenly sat down on the keyboard. If the vibrations made by each half of the string, or its thirds, or its fifths, were prominent or possessed sufficient intensities to be heard, they would sound pleasant to our ears. Therefore, these are called the harmonic overtones. If some of the vibrations of the smaller parts of the string were too prominent or intense, they would make discords with the harmonic overtones or the fundamental. They would make the sound 'sour', or harsh, or discordant, and they are therefore called inharmonic overtones. Most people are more or less familiar with colors, and I shall make the picture somewhat clearer by drawing an analogy between an auditory and a visual 'color'. Instead of middle C, let us say the color is brown. Now, the color brown, according to the physicist, theoretically contains every color. By looking at the color on a piece of canvas we can, if our eyes are trained sufficiently (just as the hearing of the overtones requires training of the ear), distinguish the colors yellow, red and blue clearly as primary colors, composing the general color brown. The relationship between the amounts or proportions of the different primary colors would determine the kind of brown they together would make. And so it is with the general color middle C which is composed of different partials or overtones. How

does the painter change the quality of some particular shade of brown? If he wishes a more yellowish brown, he simply adds more yellow, etc. In the same way, if a physicist, while experimenting in his laboratory with some vibrating instrument that produces a certain tone, wants a different quality he can, just like the painter, get many different colors by eliminating, adding or amplifying the overtones.

Suppose the reader, then, were to say, "From what you have so far stated, I can see that if I wished to raise the pitch of a given vibrator, I should have to increase the number of its vibrations per second; or, in other words, 'raise its frequency'. If the vibrator happens to be my vocal cords, the pitch would depend upon the frequency of their vibrations during the singing of a certain tone. If I wish to make the tone louder, I make these vocal cords 'swing' harder. But when I change the quality of a certain tone, you say I either increase or decrease the intensity of some of the component parts of that tone or its overtones. If it were an actual color, such as brown, I could get another shade of brown by adding a little more yellow, or blue, or red; but how do I add a little more of the overtone G, or B flat, or E to change the quality of middle C?"

To explain this process we shall have to con-

sider the meaning of resonance. Resonance means concentrating and reflecting air waves in such a manner that they amplify the tone by reinforcing or intensifying any part or parts of that tone; that is, its overtones or fundamental. This can be done in two ways. One is by sympathetic vibrations; the other is by a forced air vibration in a cavity.

To illustrate: An instrument so constructed that when it is sounded we can hear only the fundamental and no overtones is called a tuning fork. That is, when a tuning fork is made to sound middle C, no overtones can be heard when that fork vibrates. Let us take four tuning forks, the largest of which is middle C. The others are of smaller intensity and are tuned to G, B flat and high C. When they are all struck at the same time the sound that is most prominent to the ear is middle C. Roughly speaking, you could call the four tones together a 'single complex tone', such as the tone made by a piano string or the vocal cords or almost any other vibrator except one that is built on the principle of the tuning fork. The middle C would then be the fundamental and the other tones—G, B flat and high C—could be thought of as harmonic overtones. You could sound together as many forks as you wish, and if many of the overtones were high tones such as at the pitch of high C sharp or high G flat, (as you

can see, they do not blend very well with the others), you could make the tones as complex as that of a New Year's Eve horn which sounds so comical only because there are so many high 'partials' or 'inharmonic' overtones in it. Now, then, let us place another fork tuned to G near our above combination of tuning forks. As we sound the four forks all together again, we notice that the fifth fork (the one we just placed near the other fork), begins to vibrate by itself and thereby reinforces the original G in our four-fork tone system. The sound now, although still having the pitch of middle C, will have a different ring to it; that is, more of the G 'flavor' or color in it. In other words, the quality is changed by sympathetic vibration. The whole tone will, of course, sound louder. You can hold as many forks tuned to whatever pitch you wish near the forks you strike, and without being struck these additional forks will vibrate and modify the original tone.

The other way of changing the quality of the tone is by holding near any of the vibrating forks an air-containing cavity; for example, a small brass cylinder open at one end and tuned to whatever frequency or pitch you wish. The vibration in the cavity will amplify to a surprisingly effective extent the intensity or loudness of any tuning fork with which it is in the same pitch. If the cavity

happens to be of a frequency that is somewhat different from any of the tuning forks it will not resonate nearly so well. If the air-containing cavity is made of some material that is soft, let us say rubber, the resonance will also be poor.

Instead of the artificially arranged tuning forks, let us imagine the overtones in the tones produced by the vocal cords. Then, if the air-containing cavity happens to be the throat (the pharynx), and it is opened or adjusted so that its natural frequency is the same as some of the harmonic overtones that we desire, the resonance will be excellent. If the collapsed throat (so-called relaxed), or the mouth with its soft walls is used as a resonator, we can now understand why the resonance would be poor, can we not?

According to the above picture I have drawn for you of resonance, which is based on the science of acoustics and which is as complete as I think necessary for our purposes, I hope that you can see that the teeth, or the hard palate, or the walls of the room you are in, or the bones in your body can not act as resonators. One of our great voice authorities in her book writes that when singing in a room she always looks for some large wooden surface because that helps give her resonance! If the walls were made of marble, her idea is that the resonance would be poor, because par-

ticles of wood give better resonance on account of their ability to vibrate, etc. You can see that such confusion in the difference between the meanings of 'reverberation' and 'resonance' would lead us to absurd conclusions.

Reverberation undoubtedly affects the tone but in a different way from resonance. Instead of becoming amplified, the tone, after it hits the wall, bounces back. What you hear then is the echo of the original tone. Of course, hard surfaces brighten the tone and soft surfaces have the tendency to deaden the tone by absorption. However, it is not because of any resonance.

To sum up then: The points of special interest to the singer or speaker from the standpoint of the science of acoustics are:

1. The vocal cords act as vibrators and produce sound or tone.

2. The rapidity and the energy with which the vocal cords shake decide the pitch and the loudness of the tone.

3. The size of the air cavities or of their openings, as well as the rigidity of the walls of these cavities, which are near the vibrators, (vocal cords), largely but not entirely determine the *quality* as well as reinforce the *quantity* of the tone.

Acoustically, resonance is the reinforcement of

a complex sound called *tone* by amplification of its simpler parts, (fundamental or overtones in various combinations).

I know that some of my readers will probably say to themselves, "Even if we do obtain a clearer understanding of how to change tones by making them louder, softer, more resonant, brighter, duller, etc., by a study of acoustics, I do not find anything in this science that tells me the difference between a good tone and a bad one. The study of physiology will probably teach me how to develop muscles, make freer tones, healthier tones, etc. Psychology will help me to obtain a clearer concept of how to make my tones more emotional, how to obtain a better mental concept, consciously or unconsciously. What science is it that can tell me what a perfect tone is so that I may have some ideal toward which I can work? Evidently, I can not trust my own taste, for I thought that one of the world-famous coloratura sopranos produces the sublimest of tones until I found that one of the great voice teachers thinks her tones abominable. I was about ready to change my opinion when another authority said that this singer was one of the greatest of her time."

To this question I can only say that there is no such thing as an *absolutely* beautiful tone. To a person brought up and living in China, the

shrill ear-piercing singing of the Chinese opera star becomes fascinating in spite of the fact that it has not the slightest resemblance to our idea of tone production. Personally, I refuse to call any tone good that does not sound good to me. I am egotistic enough to make my ear the last court of appeal, but without that feeling of supreme confidence in my own taste I could not be a teacher of voice, could I? However, I do not claim that my ability to decide what a good tone is is some divinely-inspired gift that makes me an authority on the 'beauty of tone'. My taste is the result of coming in direct contact or listening to the singing of those whom our western world calls the great singers of the concert and opera. If you are fortunate enough to possess a good normal ear and an intelligent mind, listen to as many singers that are considered great by the cultivated musical minority of our time as you can possibly afford, and thus develop your taste to the point where you will become convinced that the only tone that is good is the one you think is good. Although we must not make the mistake of relying entirely on our own judgment of the tones that we ourselves produce (because Nature does not permit us to hear ourselves exactly as we sound to others); nevertheless, our tones will never be any better than our own taste. In the case of im-

proving your own voice, be certain to select the teacher whose taste you admire, for his ear will be the final court of appeal as far as you are concerned. A beautiful tone is nothing more nor less than a sound which a cultivated minority of a certain community decides to call beautiful. The first duty of the serious student, then, is to develop his taste; that is, to become a part of that cultivated community. Know what kind of a tone you wish to produce. Have you a good ear? Are you intelligent? Can you banish your inhibitions —those gnawing fears of making yourself ridiculous to the ears of your listeners? If you can answer 'yes' to these questions you can, in spite of many immediate failures and obstacles, produce the tones that seem to be hidden somewhere far away in your subconscious mind—that you feel and know are beautiful.

Just as we have learned things that are of importance in our effort to improve the voice by looking at 'voice' from the standpoint of acoustics, or the 'science of sound', we can learn much that is valuable to us by examining the mechanism of the things that produce the sound—that is, the vocal organs: and so in the next chapter we will examine briefly the physiology of the parts of the body most directly concerned in the production of tone.

CHAPTER III

The Vocal Organs

SINCE the invention of the laryngoscope by Garcia, who was the first investigator able to observe the vocal cords in action, voice specialists have become convinced that a thorough study of the physiological functions of the vocal organs is necessary for the teacher of tone production. Our question is, 'What need the voice student, singer or speaker actually know about such things as vocal cords, larynx, pharynx, nose, trachea, bronchi, hard palate, soft palate, vellum, tongue, lips and false cords, to help him in his long and arduous, though nevertheless fascinating task of improving tone quality?'

First of all we must remember that the entire body may be considered as a VOCAL ORGAN, for truthfully every part of that body is somehow concerned in the production of a vocal tone. "All right, then. Prove to me that the toe on my foot has something to do with my tone quality," you may propose. In answer I would say, "While you sing a tone, I shall step on your toe and we shall

see whether the quality of your tone will change or not." The entire nervous system is so arranged that nothing can happen to any part of your body without having some effect on your mind, either consciously or subconsciously. Anything that may be in your mind while you are singing or speaking may very easily be reflected in your voice. Thus you can see why I state that indirectly every part of you is concerned in tone production. However, all you need to know about the parts of the body other than those most directly concerned in the production of tone (the vocal cords, etc.,), is that you must strive to keep them in the best of health. The money you may spend for voice training may be largely wasted if at the same time you have allowed your teeth to become abscessed or your tonsils badly infected or your stomach out of order. Physical health is a necessity for good tone quality. As for the part the mind plays in tone production, the important thing to remember at the present time is that a healthy body means a healthy mind. A man with a weak body may have a very intelligent mind, but think how much more this same man could accomplish if he were in better health.

Second, the correct mental concept is the most important factor in tone production. Perhaps the reason for the popular term 'ham actor' is partly

based on the fact that the mediocre artist's constant thoughts of how soon he will be able to afford a plate of ham are subconsciously reflected in his acting. Thus when he sings, "Darling, I love you," he is really thinking, "Oh! For a good dish of ham!" The student who is practicing keeps on thinking, "I wonder if I am getting a good tone. I wonder if I really have a voice good enough to train. Maybe I am doing something wrong," etc., will unconsciously reflect those thoughts, whether he is singing, "La, la, la," or an aria from Pagliacci. How many teachers know, or if they do know, take the trouble to teach their pupils *what to think* while they are busy disturbing the air with the physical vibrations of their vocal mechanism?

THE LARYNX—(Voice Box Inside the Adam's Apple).

This organ consists of an intricate system of cartilages bound together with elastic membranes. Two of these membranes are called the vocal cords. The voice box is attached above to what is called the hyoid bone, and has an opening into the upper part of the throat (laryngeal pharynx). Below, the larynx is attached to the trachea (windpipe).

The complex structure of the larynx and the

exact function of its various parts in determining changes in pitch, quality and intensity are not fully understood. The naming of many of its muscles that operate in coordination with other muscles in order to tense the vocal cords or bring them into closer approximation as they produce sound would be of no practical benefit to us. It is known that for every tone produced there is a special coordinated adjustment made between the muscles that control the vocal cords.

THE VOCAL CORDS.

These are two greyish-white ligaments inside the larynx. They are about half an inch long and form a V shape with the apex attached to the sharp edge of the Adam's Apple, and the wide part of the V facing the back of the throat. The opening between the two sides of the V is called the glottis. When producing a tone the two sides are brought close together so that when breath pressure is forced between them the cords are set in vibration. During the production of sound the air is usually expelled in a series of small quick puffs, according to the pitch of the tone, which (as I explained in the previous chapter), is determined by the number of vibrations per second. We must also remember that the vocal cords vibrate not only as a whole, which gives us the 'fun-

damental', but that they also subdivide into different parts—that is, there are overtones being produced by the vibrations of segments of these cords. On account of the smallness of the vocal cords, the intensity of the sound produced is very small, but to compensate for this, Nature has so arranged it that there are several resonance cavities which act as great amplifiers and selectors of sound.

THE RESONANCE CAVITIES.

The throat cavity considered as a whole is called the pharynx. That part of the throat which is in the back part of the mouth is called the ORAL PHARYNX. The part which is behind the soft palate is called the NASAL PHARYNX. The LARYNGEAL PHARYNX is the part of the throat which extends from the top of the larynx to the oral pharynx. These are the resonators chiefly used in the well-produced tone, because they are capable of many adjustments that enable them to take the proper shapes and sizes for the amplification of any fundamental or overtones produced by the vocal cords. Under the proper conditions the walls of these resonators are held in a rigid manner, so that the maximum amount of amplification can be obtained. Under wrong

conditions the walls constrict, the larynx becomes strained and the tone is distorted.

The inter-relationship and adjustments between these tremendously important *amplifiers* or *magnifiers* of tone and *selectors of the most delicate tone shades,* or *'resonators',* as we shall call them from now on, are very complex and subconscious. Now, just as we have observed some of the main characteristics of the functions of the larynx, we are going to note some of the workings of the sub-divisions of the entire resonance system that (according to our best scientific investigators) , are of great importance.

1. If you open the mouth quite widely, the nasal and oral pharynxes can be cut off sufficiently so that the resonance will be mostly in the LARYNGEAL PHARYNX. This is used for very high frequencies. The reason for it is that according to the science of acoustics, the smaller the resonating cavity, the higher the pitch. Thus you can see that in this way the natural frequency of the smaller cavity will make it easier for the air in this short throat (and, if correctly used, rigid-walled,) cavity to resonate or vibrate in sympathy with and amplify the very high frequencies originating in the vocal cords of the larynx.

2. The nasal pharynx can be cut off by the soft palate and we can have the ORAL AND LA-

RYNGEAL PHARYNXES acting together as a combined cavity for resonating frequencies not as high as those of the laryngeal pharynx, or the smaller resonator.

3. The three cavities can act together; that is, the ENTIRE PHARYNX composed of the parts mentioned above.

4. For the very lowest tones the windpipe and its branches—the TRACHEA AND BRONCHI —are also used; that is, they can act together with the pharynx to give us still a larger resonator.

The mouth, being an air cavity close to the vocal cords, is of course also a resonator but it may be considered to be one of poor efficiency for that purpose for the following reasons:

The walls of the mouth can not be held at all rigid unless the cheeks and tongue, jaws and soft palate are held in a stiff unnatural way. The movement of the jaws, as well as that of the soft palate and the back part of the tongue, effects changes in the shape of the pharynx, so that if we tried to consciously interfere with the movements and positions of these organs during the production of a tone we should thus interfere with the highly complex movements of the resonating system in general, which is as subconscious in its operation as the beating of the heart. Tones are produced on the vowel. Changes in vowel mean changing

throat adjustments and that means interference with their highly involved and subconscious work of producing the complex mixtures of the numerous shades of colors (fundamental plus overtones), called musical tone. So that, for practical purposes it is necessary not to pay any conscious attention to the mouth as a resonator, in spite of the fact that most of the books on voice, up until very recently when these physiological facts became definitely known, still attributed an important part to the conscious adjustment of the mouth in forming vowels.

ORGANS WHICH AFFECT THE QUALITY OF THE TONE BUT WITH WHICH THE SINGER NEED HAVE NO CONCERN.

THE CAVITIES OF THE NOSE, THE WINDPIPE, THE EPIGLOTTIS, THE FALSE VOCAL CORDS, THE UVULA, THE SINUSES—these organs undoubtedly affect the quality of the tone, but the singer or speaker need not give them any thought, because the above-named cavities are non-adjustable and the organs work entirely subconsciously, their exact function being but vaguely understood. For example, when carefully studied through X-ray pictures, the epiglottis, although apparently very active, assuming

various positions during the production of different tones, yet gives us not the slightest clue as to when, how or why these positions are assumed. The false cords on certain very bright tones and often on poorly produced tones seem to press very hard against the true vocal cords. According to a famous X-ray specialist, with some of the great singers, the uvula shuts off the laryngeal pharynx from the two upper ones, and with some it does not when singing the highest tones. Referring to the theory of the 'shortest resonator' for the highest tones, as explained in a previous paragraph, it would seem to indicate that those whose uvulas were not behaving in accordance with it were guilty of not producing a 'correct' tone.

The shaping of the LIPS for vowels would be equivalent to consciously adjusting the mouth for quality changes and that, we have already explained, is dangerous interference with the natural adjustments of the pharyngeal resonators. However, such general directions as trumpeting the lips or uncovering the teeth and smiling may often prove to be very beneficial during the course of a lesson, because in those cases we merely make the tone brighter or duller, as is well known by every teacher. This depends on the individual, and when used only as a temporary general direction in the modification of quality is unharmful

and entirely different than assuming lip or mouth positions for the exact definite color shades known as vowels. *The important work of the lips is in producing certain consonants.*

THE TONGUE.

Many of the complex muscles that hold the larynx in position are attached from the tongue to the hyoid bone. The base of the tongue is intimately connected with the throat (the PHARYNGEAL RESONATING SYSTEM), and any conscious adjustment of it for tone quality will accomplish nothing but dangerous interference with the tone producing mechanism. The tongue can be consciously trained to form certain consonants more distinctly, but the singer should not concern himself in the least as to what position it takes for the production of the vowel (or quality). For practical purposes a vowel may be considered as merely a specific tone quality. Thus the difference between the tone middle C sung on 'AH' and the same tone sung on 'OO' is really nothing more than a difference of timbre or quality.

It is important to remember that all the vocal organs are interdependent and that in producing a tone every vocal organ must act correctly or otherwise throw the whole system out of balance.

The larynx, the resonance cavities, and the other vocal organs function like a synchronous motor in producing a good 'natural' tone. The problem of producing a good tone is further complicated by the fact that the muscles involved have other functions also, such as swallowing, sneezing, coughing, etc., and that often these functions may be just the reverse of singing or speaking. Stiffening of the neck and jaw muscles is a common cause of interference with good tone production. Constriction of the throat muscles may be very fine for swallowing food, for example. But when you try to swallow and sing you are setting up terrific interference in the muscular system that can not do both of these things at the same time efficiently. Thus, preventing the interference of antagonistic muscles while producing tones is a serious problem for the voice student.

THE BREATHING APPARATUS.

The question of breathing has always been considered of great importance in the study of voice development. Until the nature of sound was properly understood it seemed apparent that the breath, after escaping through the vocal cords, simply changes into sound or 'vocalized breath'. No wonder that so many teachers thought that 'breathing is singing'! Even today many teachers

have not taken the trouble to obtain a correct understanding of the relationship between breathing and producing sounds, and therefore there is a surprisingly large number of pupils being given lessons in 'breath control'. Now, as I have explained in a previous chapter, the rate of speed of 'air waves' is so much greater than the slow speed of the breath itself that it would not be possible for the escaping breath to carry the sound through the different parts of the vocal apparatus. In normal singing the air passes through the vocal cords and sets them in vibration by means of the pressure exerted on them. As the air leaves the lungs and is released, periodic or rhythmic vibrations are set up in the thorax which, on account of what may be called a tension of 'starting' and 'stopping', 'starting' and 'stopping', are evidenced in the glottis (the distance between the sides of the vocal cords), by a continual opening and closing —opening and closing, during the rapid vibrations of the vocal cords. This is what gives to the properly produced tone that necessary characteristic known as the 'vibrato', which must not be confused with the 'tremulo' that is caused by the trembling of the muscles in or near the larynx which are subjected to unnecessary strain.

It is a scientific fact that the rate of breath expulsion depends upon the intensity of the tone,

the distance of the vocal cords from each other, the size and shape of the resonating cavities at the time the given tone is produced, and the rate of breath pressure within the lungs themselves. Imagine a singer consciously trying to figure out the precise amount of air necessary for a given tone! This is, of course, the worst kind of interfering and has positively been proven to be very harmful. 'Breath control', or conscious attention to the act of breathing during singing or speaking, could be compared to the efforts of a man, who, while walking on the street, would try to estimate the exact distance between each step and the next. Awkwardness would be the result. "But", suppose you say, "I do know many people that walk so clumsily that it would do them good to go to some one who would teach them how to improve their manner of walking." Yes, I agree with you. There are many people who do not breathe properly just as there are many people who do not eat or walk corectly. Every singer should therefore learn to understand how to breathe correctly unless he is already so fortunate as to be able to do so at all times. This he can very easily find out by asking his physician or vocal teacher, whose business it should be to know these things. The man who does not breathe right will probably discover that his posture is poor or

that there are mental or emotional causes that contribute to this condition. If he breathes normally, there is still much benefit to be obtained from the development of the breathing apparatus. Conscious attention to the act of breathing during singing is equivalent to interfering with the synchronization of the highly complicated and subconscious action of the many muscles involved in the production of tone. This does not mean that the pupil should not be given directions on the proper way to inhale, correct breathing position, etc., before he commences his exercises.

Let no pupil worry because he thinks he has small lungs or does not have sufficient natural equipment for sending enough air through the vocal cords during singing. Very little air is necessary. If you have enough energy to speak without difficulty, you have sufficient with which to sing. On the other hand, if you have difficulty in speaking, NOTHING WILL DEVELOP YOUR SPEAKING VOICE AND GIVE YOU A BETTER BREATHING APPARATUS THAN SINGING. The author knows this to be a fact from personal experience. As a child, while I was attending the public schools, the teacher would often make me read outside of the room and would punish me if my voice could not be heard by the students inside. It seemed impossible for

me to read aloud. This kind of 'punishment' for something I could not help was a contributing factor in my becoming a stammerer and stutterer for many years. I attribute my present ability to use my voice intelligibly to nothing more than the serious determination on my part to obtain a thorough understanding of the processes involved in the correct use of the vocal organs.

In my imagination I can hear some of you remark, "Although it is quite evident that the 'vocalized breath' theory and conscious control of the rate of expiration during singing (breath control theory), are fallacious and harmful, and although I agree with you that an understanding of correct breathing is essential for students of voice, you still have not told us just what correct breathing is. For example, one book shows the abdomen drawn in tightly, while another book shows the abdomen slightly protruding during the act of inspiration. Which is the correct way of inhaling?" What teacher of voice is there who has not had this question asked by some of his pupils?

I shall discuss this question in a later chapter in which I state my directions for establishing normal breathing action during the act of phonation.

CHAPTER IV

A Review of Voice Culture Methods in General Use

So far, I have tried to give a concise and definite understanding of VOICE by looking into the natural laws of sound and the functions of the vocal organs. What I particularly wish to impress on the mind of the reader is the fact that, in spite of their brevity, the preceding two chapters contain the very latest information available as the result of scientific investigations on these subjects, and that only a thorough understanding of the principles involved therein will make it easy for the voice investigator to see why some of the new ideas in Voice Culture are so radically opposed to that which seemed almost self-evident to many teachers before this knowledge was available.

Other writers have reviewed the methods in use by vocal teachers. One thing they all seem to have in common. The purpose of their investigations seems to be to prove that their own particular method is the only correct one. Surely an attempt to carefully examine the methods of instruction

used by the voice teaching profession throughout the world can teach us more than merely the fact that Professor So and So's theory is the only correct way, or that most teachers are ignoramuses, or that the noble art of 'Bel Canto' died with the old Italian maestros who forgot to write down their secrets for us. I take the stand that with the exception of a number of 'voice-coach teachers', 'pianist-accompanist teachers', uneducated singers, lunatic inventors of some tongue-twisting method and other pests, which fortunately rarely last more than a few years, the legitimate voice teachers within all countries strive sincerely to practice their profession to the best of their individual capacities, and are limited not so much by their lack of ability or intelligence as by the comparatively small amount of definite knowledge available on the Science of Voice. It is not always by choice but often by necessity that the voice teacher is obliged to rely most of all upon his personal experience and intuitive ability rather than on a set of rules outlined by some investigator, who thinks that because he has discovered an elaborate electrical method for the recording of voice or has perhaps caught a better glimpse of some natural phenomenon than has his predecessors, he has now solved the entire problem of voice training.

VOICE METHOD BASED ON A PURELY PSYCHOLOGICAL APPROACH.

In the beginning of Chapter II I made the remark that voice specialists now agree that a knowledge of the physiology of the vocal organs is necessary for the proper understanding of voice production. I should have said 'most voice specialists', for there are still many teachers who take the following position.

The action of the vocal apparatus during the act of phonation is so intricate, complex and subconsciously guided a process that any conscious attention to its parts during singing or speaking would be equivalent to harmful interference. What good does it do you to know how your larynx operates? Can you consciously direct the pharyngeal system of resonance cavities to adjust themselves the way you think they should? All mechanical instruction to the pupil is a waste of time as far as this method is concerned. Does the pianist have to study the acoustic properties of the sounding board of the piano and the action of the strings or hammers before he can produce a good tone? To these teachers the voice is an instrument, the use of which can be perfected only by practice. The pupil should, then, practice on the voice as one does on the piano or violin; learn scales, vo-

calize, exercise for technic (but never for tone production), under the instruction of a teacher who is primarily a good musician. When the pupil finds that he can do a scale, a trill, an arpeggio, a song or an aria with technical ease, he will also find that his tone will be greatly improved, just as the tone of the violinist becomes improved through constant technical study. The ear, as it becomes more keen and exacting through ear-training exercises, will demand better tone quality; the subconscious mind will do the rest. There is nothing illogical about all this, PROVIDING THE PUPIL HAS WHAT IS KNOWN AS A GOOD NATURAL VOICE. The scientific teacher may criticise the 'psychologic method' teacher by saying that from his standpoint the person with the so-called 'NATURALLY BEAUTIFUL VOICE' already knows how to produce good tones and that TONE PRODUCTION is primarily of importance for those who CAN NOT USE THEIR VOICES CORRECTLY (so-called possessors of poor voices).

Now, if the teacher who believes in a strictly psychological method of training a singer could work entirely with students possessing natural voices (OR THOSE ALREADY POSSESSING THE ABILITY TO USE THEIR VOICES CORRECTLY), he would have no need for an

understanding of the Science of Voice. However, any teacher who tried to do that would not only starve to death earning his living but, what is more important, he would be working under the delusion that some people in spite of fine musical intelligence, personalities and good ears should not endeavor to make singing their careers because to him their *inability to produce beautiful tones before they were trained* would be equivalent to their being possessors of irreparably 'poor voices'.

In summing up, then, we can see that there is nothing wrong with the 'Psychological Method' in itself. On the contrary, it is a most excellent way to train *certain kinds of students.* In the hands of the artist-voice teacher, who knows when to apply it, it is merely one of the tools used in his profession. What a pity that some great authority on voice should be so carried away with the truths contained in one method that, in his enthusiasm in propounding it, he can see nothing else. Modern philosophers are desperately trying to grasp the meaning of all sciences. When will some of our scientists (especially vocal scientists), learn to understand the necessity of a working knowledge of philosophy, and find out that even so marvelously elastic a substance as TRUTH can

be stretched until it collapses in the effort to cover too large a territory?

IMITATION AS A METHOD FOR VOICE IMPROVEMENT.

There is a school of singing that bases its method of voice development entirely on our ability to imitate the sounds we hear. One of the main advocates of this method advances the following arguments as proofs. The voice has the ability to reproduce sounds received by the ear; therefore, if a teacher simply kept on producing good tones into the ear of the student, and the student on his part tried to make them as nearly as possible like the teacher's he would learn to produce good tones. The teacher, of course, would have to be able to produce fine tones and also to imitate the bad ones the pupil produces, and by these means and in no other way the 'instinct of imitation' would enable the pupil to improve his voice. The better the ear of the pupil, the sooner he would learn. Ear-training exercises could be given to the pupil to develop his sense of hearing. He also asks this question, "Even if the mechanical management of the vocal organs were possible, of what use would it be? The voice needs no other guidance than the singer's sense of hearing." If this were really true, then all our problems of tone

production would indeed be solved. The important thing, then, would be that the pupil should first of all find a teacher who was a 'great singer' and simply imitate his tones continually until he himself, by virtue of his 'instinct of imitation', would acquire the ability to produce beautiful tones.

Who has not heard vaudeville performers imitate the voices of some of our great singers with remarkable dexterity? The parrot can do even better than that. Parrots have been known to imitate human voices to perfection. They can say a sentence or sing a phrase so well that even the close relatives of the person that is being imitated will often be fooled. The author has had occasion to meet several of those vaudeville 'impersonators' and was not surprised that their 'wonderful instinctive imitative ability' did not seem sufficient to enable them to sing well when they tried to sing songs. A singer who relies entirely upon his ability to imitate his teacher will find that, unlike the parrot, he can never make his voice sound exactly like the original. However, eventually he will find himself in the same position as that unfortunate bird who, in spite of all his wonderful vocal mechanism, seems so unable to adequately express *himself*.

There is no doubt that the power to imitate is

of the utmost importance in the production of sound. In the first part of this book I said that one can never produce a tone correctly without first having the proper mental concept of it. In other words, *we must first hear the sound.* BUT WE MUST OFTEN BE TRAINED WHAT TO HEAR. This is a well-known psychological and physiological fact, of which the advocate of the theory of 'voice training by imitation entirely' seems to be blissfully unaware. The ear hears 'what habit has trained it to hear'.

Now, let us take (1) an example of where imitation works excellently; (2) an example of where imitation is insufficient and 'mechanical directions' must be given to the pupil for the production of a correct sound only as a matter of emergency, apparently in contradiction to correct theory; and (3) an example where scientific instruction is very clearly indicated.

EXAMPLE 1.

The pupil is told by the teacher to produce the vowel 'AH'. The pupil produces a sound approximately like the correct vowel, but not satisfactorily. The teacher says, "Now, listen to me. I shall say 'AH'." The pupil then says, "Oh, I see what you mean." He immediately produces the correct vowel. Then the pupil asks the teacher,

"Shouldn't I hold my mouth more open and my tongue flat, pressing against the teeth? Which is the correct way?" The teacher should then reply, "Please forget entirely about the position of the mouth and tongue in producing the vowel 'AH'. It is now known definitely that the continuous conscious shaping of the mouth for the production of a vowel would interfere with the intricate subconscious adjustments of the throat which acts as a resonator. The tongue, also, being attached in the back to the throat, will automatically assume the right shape depending on the 'tone' you produce. No one knows the exact shape of the tongue for any given tone. The adjustment is too delicate. Any attempt on your part to make the tongue lie flat in your mouth while you sing the vowel 'AH' may prove injurious because it will surely be in conflict with the subconscious mental command the tongue receives to lie in just the correct position for the given tone."

EXAMPLE 2.

The pupil is then told to sing 'OO'. The pupil sings 'OH'. The teacher then pronounces the vowel 'OO'. The pupil listens carefully and says 'OH'. The teacher, seeing that the pupil HAS DIFFICULTY IN IMITATING that vowel, tries another approach. "Please say the word 'who'."

The pupil says 'who'. The teacher again asks the pupil to pronounce the vowel 'OO' and advises him to remember how he formed the 'OO' sound in the word 'who'. The pupil tries again but the sound he makes is still 'OH' and not 'OO'. The teacher then says, "Will you please protrude your lips and make a very small opening in the front of your mouth and then say 'OO'?" The pupil follows out the mechanical instruction and produces a clear 'OO'. He says, "Oh, I see what you mean. That's easy, and I *can* make a clear 'OO' sound. But isn't that contrary to the explanations you just made when you asked me to sing 'AH'?" The teacher says, "Yes, but it was the only way I could do to make you say the vowel 'OO' and HEAR IT FOR YOURSELF. Now come over to the mirror and say 'OO' ten times. Can you not hear how differently that sounds from 'OH'? Now I shall say 'OO'. Watch my lips. What shape are they in?" The pupil is surprised to find that the teacher's lips are not protruding at all and that the mouth is open in about the same position as in 'AH'. "You see," says the instructor, "it is not necessary to shape your mouth at all for any vowel. Now you try it. Sing 'OO' distinctly and clearly and never mind protruding your lips, etc." Having himself made the sound 'OO' several times and learned that it should not depend on any con-

sciously adjusted position of the shape of the lips, the pupil, in this case, is taught by an apparently conflicting mechanical direction, but is made to understand that it was used only for the sake of expediency, just as we sometimes have to use dynamite to put out a fire.

EXAMPLE 3.

A foreign-born lady who has lived in this country for many years, possessing a good musical ear and a high degree of imitative ability, asked me to assist her in correcting her pronunciation. She pronounced the word 'three' as if it were 'tree'. To her the two words sounded so much the same that she told me she never took much interest in learning to pronounce 'th' before. However, after I told her that this was a very glaring error to an English-speaking person, she only learned how to pronounce the word 'three' correctly after I taught her the correct tongue-between-the-teeth position for 'th'. She said, "It always did strike me as peculiar that Americans stick their tongues between their teeth. I thought it was some kind of a weakness, like lisping." However, she did learn to pronounce her 'th's', and not entirely by her power of imitation, but by first establishing the correct physiological action. As the sound 'th' became very distinct in her mind, *the ear thereafter*

guided her vocal apparatus in the production of the sound and she no longer needed to be conscious of the position of her tongue.

In summing up, then, we can say that:

(1) Imitation can be very desirable in the case of subconscious learning of good music in general through hearing many good singers or as in the case of the correct production of vowels.

(2) Imitation can be very detrimental to the singer who would allow himself to be trained like a parrot by trying to improve his tones merely through listening to the tones of his teacher.

The authority who wrote a book attempting to prove that imitation is the only correct basis for tone production is not some ignoramus who does not know anything about the Science of Voice, as some scientists would have us believe. On the contrary, he is a very able man who, in his book, shows a profound understanding of many things about the theory of voice production. He simply mistook the truth, 'imitation is one of the means used in voice culture', for some miraculous elastic that could be stretched indefinitely to fill every conceivable case of voice instruction.

CORRECT SPEECH AS THE MAIN BASIS FOR VOICE DEVELOPMENT.

There are voice teachers who base their theory of voice culture on the following hypothesis. Singing is nothing more than a sort of glorified speaking. Words are composed of vowels and consonants. Each language has its own 'tune'. In singing, the tunes are much more definite, the vowels are held longer, and a much greater variety of rhythms is used. The musical education of the singer can develop his senses of pitch and rhythm, more or less, in accordance with the ability of each individual. The voice teacher, then, (according to this theory), is faced mainly with the problem of training his pupils in the perfection of the pronunciation of words. Exact formation of consonants and vowels, first, then drills in their various combinations such as, ba, ba, ba, mi, mi, mi, and then words from the physical standpoint would be the procedure, (if the system were logically carried out). From the psychological standpoint the pupil would be taught the way to express the lyrics emotionally. In other words, the great actor with a musical ear and a musical education should automatically become a great singer. If this were true, it would indeed be an easy solution of the problem of tone production.

There is not the slightest doubt that a singer should strive for perfect diction, which is a *necessary requirement in his task of making his songs intelligible to his listeners.* But that is not all. Music teachers are familiar with singers who use their speaking voices poorly, and vice versa, great speakers with fine musical ears who can not sing at all. Their musical education might enable these men to speak the words of a song in tune, but we could not call that singing. Of course, these fine 'musical actors' could be trained to become singers much more easily than if they did not have these qualifications. The 'dictionist' would reply, "Bah! All they would have to do is to sing, sing, sing, until they perfected themselves as singers. They have their musical background. They know the way words should be pronounced and their meanings. The same muscles used in singing are used in speaking. What, then, would be the necessity for a study of 'tone production'?" One of the best-known voice specialists takes this view. A few years ago he wrote a book on Voice Training based on these principles. Like many voice specialists, he becomes over-enthusiastic and so dazzled by the brilliance of the great amount of TRUTH in his theory, that he fails to observe the flaws.

In order to prove the necessity for a study of 'tone production' for the development of voice,

and that tone production is not based merely on the accurate formation of consonants and vowels, and a study of the pronunciation of words, let us examine the difference between the speaking and singing voice.

One of the absolutely necessary requirements of a good singing voice is the VIBRATO, which results from the fact that the nerve impulse is applied at one instant to the muscles of the voice box, throat and chest that are involved in singing, and at the next instant these muscles are released. This process tenses and relaxes the entire singing mechanism very rapidly and evenly as if the current were switched 'on and off', 'on and off', during the production of singing tones. In the process of speaking the VIBRATO should be absent, because the vocal cords are not sufficiently tensed to let the air escape as through the 'puffing action' required in singing. Latest scientific research plainly indicates that the above theory is based on fact.

There are other important differences between the singing and speaking voices that it is not necessary to take up in this chapter. From this one difference alone between the two kinds of voices, it is seen that the singer must develop his VIBRATO. But how? The answer is as follows. In order to sing properly, the muscles involved (although ad-

mittedly the same as those used by the speaking voice), are used much more vigorously. These muscles, the laryngeal and pharyngeal, must first be thoroughly developed and their proper action carefully established before real singing is possible.

Perhaps I can make my point clearer by the following analogy. The muscles involved in dancing are the same as those used in walking. The dancer who seriously undertakes to become a 'prima ballerina' has to undergo strenuous exercising of many muscles to enable her to dance on her toes, do pirouettes, etc., before she can really be called a dancer. That seems to be self-evident. Occasionally there is an exception. I know a Russian Cossack who can dance on his toes (without having to wear special toe shoes), and do many of the intricate tricks of the trained dancer without ever having taken a lesson in his life. If you asked him how he acquired his skill, he would reply, "Oh, it just came to me naturally." In reality, he learned his dancing by imitation. His natural ability consisted in healthy muscles that naturally adjusted themselves and strengthened through practice. He was also free from the inhibitions that we try to hide or, what is worse, fears that instead of admitting to ourselves and seeking to overcome we foolishly deny. These inhibitions would

prevent a city-polished gentleman with the same natural abilities from accomplishing, without a great deal of psychological re-education, what this Cossack did.

With the exception of the rare genius like Caruso, who could get along with comparatively very little instruction in the art of the proper development and adjustment of the muscles involved, which is the *physical basis of the Science of Voice Development,* the serious student of singing requires to spend a lifetime of attention to the proper training and developing of the pharyngeal and laryngeal muscles in addition to other problems common to all intelligent musicians and actors.

It may be of interest to note that a man like Caruso, apparently free from the deadening inhibitions of most singers, and possessing what could be called an instinctive ability to adjust his vocal muscles correctly in addition to possessing the musical and dramatic ability of a genius, nevertheless did spend much of his time on purely 'tone production' and muscle-developing exercises.

From the above, I hope the reader will see that the development of the SINGING voice, instead of *depending* on the correct way of speaking, will in reality be *the means of improving* the SPEAK-

ING voice by virtue of the fact that only by vigorous exercising of the vocal muscles, which can be accomplished by scientific tone production exercises as used by the correctly-trained singer, can the proper QUALITY, RANGE, VOLUME and RESONANCE be given, *both to the singer and the speaker.* That is why so many actors are now studying 'tone production' without necessarily intending to use their voices for the purpose of singing songs.

THE VOICE PLACEMENT METHOD.

It is surprising, in view of accepted facts in the science of acoustics and late research in the science of voice, that so many teachers still think of the voice as something that can be placed or 'put' in some definite location. Yet I do not wish to fall into the same error as one eminent scientist who simply dismisses the whole question by accusing all those teachers of being 'ignorant of even the basic fundamentals, not only in voice, but in what may be called the practically non-controversial science of acoustics.' On the same page of one of his books (in my opinion one of the finest contributions to the science of voice), Douglas Stanley says that Madame Lilli Lehman was one of the most famous and *successful* teachers in Europe, and also that 'she was obviously unqualified to

teach vocal technic.' It sounds to me like saying that one of the greatest surgeons in the world should never have performed a single operation because 'I have read one of his books and in it he shows that he has a very poor understanding of anatomy.' Surely there is something illogical about a 'great and successful teacher of singing' not being qualified to teach, isn't there? In one and the same breath, as it were, one of our greatest modern scientists in voice admits that there are 'great and successful' teachers in the world outside of those who follow his scientific method, and at the same time that they know nothing of the Science of Voice.

These teachers who follow the method of 'placing the voice' somewhere seem to have aroused the profound disgust of many scientists to the extent that they completely lose patience with their 'methods'. The latest method is often like a brand new shiny tool—most excellent. But this does not mean that Garcia with his now antiquated tool —'his method'—could not do a thoroughly good job of voice training. On the contrary, what a real maestro he must have been to work with such an imperfect knowledge! I wonder how the voice specialist of a hundred years from now, with his intricate apparatus that will make our present machinery look as antiquated as a wooden plow,

will look at the hypothesis of the 'two and only two sets of muscles that tense the vocal cords' and other, as yet unproven, theories?

It now seems definitely established that putting the voice in the front part of the face, (the masque), the nose, the head, or the roof of the mouth is a physical impossibility. If the breath were the sound, it could possibly then be directed like a column of gas to some definite place. That the sound is not 'vocalized breath' has been shown by the fact that sound waves travel at a vastly greater rate of speed than air (the breath). Sound waves also travel in every direction and are not physical 'somethings' that could be put anywhere. If you concentrate on the roof of the mouth and try to 'place' a tone there, the result will be a distortion because you will probably tense some part of the surface of the palate. An attempt to consciously direct tone to some particular place will inevitably cause a constriction in the throat that will make the sound unpleasantly artificial.

Many writers consider the hard palate as an important sounding board. Some speak of the spine as a sounding board. The only way for the hard palate to become an efficient sounding board would be first of all to amputate the vocal cords and then attach them to the roof of the mouth. For the spine to be an efficient sounding board,

or 'radiator of sound', the vocal cords would have to be attached to the spine and would have to be held perfectly rigid. A study of the elements of acoustics and physiology convinces us at once of the absurdity of the theory of 'voice placement'. More than one writer has pointed out this fact together with the fallacy of the breath control theory.

Now, if all the above is true, shall we say then that teachers who use such poor tools as the 'put it here', 'put it there' method, or 'focus the voice at the base of the nose to develop nasal resonance' are ruining voices? I say most assuredly that the answer is, "No." I would not hesitate a moment to recommend a Witherspoon or a Marchesi in spite of their apparently unscientific methods as explained in their books. Indeed, I would call them 'focustnicks' in the true sense of the meaning of the Russian word for magician. For they can so manage, in spite of their theories, to achieve such marvelous results that any pupil would be safe in their hands. Thus it was that some of the old doctors, without the use of the modern X-ray, could, by tapping the surface of the affected area of the patient, do marvelous work as diagnosticians. Just as the modern doctor is always ready to discard his old-fashioned tools for better ones, I would advise the voice teacher to discard the

voice placement theory altogether and adopt more modern methods. However, if the good voice teachers of the past and present, regardless of their methods, have really often achieved fine results and were not just ignorant practitioners of a much misunderstood profession, how did this theory of voice placement come about and why is it so much in universal use?

When you listen to the loud speaker of a radio, the tones 'seem to come out' from the horn itself, not from some little mysterious intricate piece of machinery some distance away from it. So it is that when you listen to a singer and watch his mouth, the feeling is *as if* the tones were formed in the front part of the mouth. The old maestros, having noted this apparent fact, naturally concluded that the 'tone must be forward'. When a good singer performed, these teachers, who must have been sensitive to the action of the throats of the performers, felt that the throat was open and free when the artist produced good tones. Thus came about the precept of the 'open throat'. The sensitive singer often notes that when a singer sings with a constricted throat, his own throat constricts 'sympathetically' with the throat of the singer, just as the sensitive person will frequently blush 'sympathetically' with the embarrassed performer. These are known psychological facts. When the

singer produces a good tone and he is told afterwards that his throat is open, or that his tones are in the front part of his face, he often imagines that he feels them there and there is usually no harm accomplished. But the trouble comes when the pupil, in his effort to improve his tones, tries to put his voice in his 'masque', or nose, or the roof of his mouth, or tries to keep on opening his throat. Nothing can be more harmful. I have watched these same 'voice placement focustnicks', who advocate putting 'it' some place, very cleverly overcoming their difficulties in the following way.

The pupil would be told repeatedly, "Put your tone in the front of the mouth", "Focus it to a point", "Imagine this and imagine that". If somehow the pupil through natural ability to instinctively adjust his muscles, produced a good tone in spite of these directions, the teacher would think that his instructions were followed to a 'T' and everything went well. On the other hand, the tones of the pupil who often needed some real instruction on just what to do to remedy his bad production would indicate to the fine ear of the teacher that things were not going so well. The teacher could attribute the fault to the pupil's lack of 'vocal intelligence' or some other fault, (never, of course, to the fault in the theory), and would really correct the error by telling his pupil,

"Now forget what I told you about placing the tone forward, etc., just sing naturally, or listen to me make the same tone," until he managed to get him to produce the tone he wished. A really intelligent man with a good ear and experience will somehow manage to get his pupil to produce the tone he wants him to produce. That is all that even the best teacher can do. So that to me it seems quite clear that in spite of the admitted inefficiency of their antiquated tools there is no reason for condemning the great number of the voice teaching profession who still stick to the above method as being absolutely unqualified to teach voice, even if they do often seem to be driving 'with the cart before the horse'.

There are other theories of voice production that I do not mention here because they are not seriously accepted by voice teachers and would contribute nothing to our search of 'How To Improve the Voice'. In concluding this chapter I wish to say that no one authority has said all there is to be said about the science of voice. No 'voice method' has as yet been invented that is absolutely established as the correct method. One of the best authorities and most scientific writers on voice in modern times (in my opinion), nevertheless errs in making this statement, "I have covered the entire field of vocal literature quite

exhaustively and have found nothing at all of scientific value". Can one imagine an Einstein saying, "I have covered the entire field of literature on astronomy and have found nothing at all of scientific value in it"? I suppose the writer could reply, "You must realize that astronomy has been a recognized science for many years, while voice culture, UP TO THE TIME I WROTE MY BOOK, could not be considered a science," etc., etc. Shades of Garcia! The 'scientist' who insists that 'his method' based on the latest scientific investigations is at last the only correct one makes me think of an incident that happened during my high school days. I was telling one of my classmates about 'two parallel straight lines never meeting if extended in either direction'. "You are wrong," said the young student. "All geometry professors are wrong. Now, my brother is a university student and he is studying Calculus —that's high mathematics—and he says that he can prove that those parallel lines certainly would meet". That day when I asked my teacher to explain this to me, he replied, "Yes, quite true. They would meet AD INFINITUM". "Where is that?" I asked. He replied, "That is just another way of saying NEVER."

I wish to emphasize the fact that a true scientific study of the subject we are discussing can only be

obtained by taking into consideration *all available material on the subject.* Eminent highly successful, educated people like Garcia, Tosi, Mancini, Marafioti, Taylor, Shakespeare, Witherspoon, Russell, Marchesi, Lehman, Shaw, Clippinger and many others, could not possibly write books on the one thing they are most interested in without saying *something* of scientific value.

From what I have said previously you may expect a correct method to be truly scientific in the broadest and best sense of the word because it will be based not only on the latest findings in the natural sciences pertaining to our subject, but it will also take into careful consideration the experience of the voice teaching profession in general, without the customary complaint of the 'supreme authority' who bewails the decadence of the art of singing, like the stupid moralist who insists that our generation is more wicked than the generations of the past

CHAPTER V

The Problem of "Voice Registration"

SCIENTIFICALLY-MINDED voice specialists are not content with merely following in the footsteps of the old 'maestros' who treated Tone Production as a subject the successful exposition of which depended mostly on the artistic ability of the teacher and his understanding of traditional 'principles'. Therefore, they are constantly seeking for new theoretical developments that will enable them to become more efficient in the practical work of training the voice. One of the modern theories that is finding favor with many of these teachers treats the voice as if it consisted of TWO REGISTERS, the LOWER and the UPPER. Those who have adopted this theory report phenomenal success. And so do the followers of the NO REGISTER, the ONE REGISTER, and THREE REGISTER and the MANY REGISTER theories.

Whether we use the same words or not, we teachers of voice are immensely interested in the question of determining the proper 'controls' for

the production of different tone qualities. This is what I mean by 'registration'. It is obvious that the best theory will be the one which is the most solidly grounded when observed in the light of the best-known facts. But what are the facts? Is there any new light that can be thrown on the subject of VOICE REGISTRATION? In submitting my views for your consideration, I propose to answer the following questions:

FIRST: (a) In what sense is the word REGISTER used by the voice teacher?

(b) What is the most accurate conception of the meaning of REGISTRATION?

SECOND: How did the various Voice Register theories come into use and what can be said for or against any one of them?

THIRD: What is the best method of REGISTRATION?

The dictionary gives the meaning of the word 'register' as 'that which registers or records'; also, 'musical compass or range'. As far as is known, up to about the middle of the Nineteenth Century the early voice teachers merely noted that apparently certain tone qualities were best adapted for different parts of a singer's compass. Each one of

these portions of the compass was called a 'register'. For example, if a singer were to start singing a low E, using what is commonly called 'chest quality', and ascend the scale, he might come to a point where a more or less distinct change in quality might become necessary (although not necessarily desirable), before he could proceed comfortably in raising the pitch. The way of looking at the problem of registration in those days was for the teacher to determine what tone-qualities the pupil should adopt so that the entire range of the singer should sound even or 'unbroken' and at the same time preserving what the teacher thought was the best quality for each 'register'. We do not know very much about how they proceeded in solving their problem, except that we can guess that each teacher relied on his own taste and ear and the process of 'imitation' in what they called 'equalizing the registers'.

Later on, after Garcia's invention of the laryngoscope, many investigations were begun on the physiology of the larynx, and from that time the term 'registers' began to refer mostly to changes in 'laryngeal action'. When the importance of the resonance cavities in modifying tone quality became more or less realized, many teachers referred to 'resonance adjustments' when speaking of 'registers'. Thus the terms 'chest-register' and 'chest-

resonance' or 'head-resonance' and 'head-register' are often being used to mean the same thing. Changes in tone quality are not due to laryngeal action alone; neither can they be attributed entirely to resonance cavity action.

To illustrate this point, it may be interesting to note how a scientific experiment was made which proved that changes in tone quality, even as complex as distinct variations from one specific vowel to another, may be caused by a difference in adjustment *in the vibrator itself* as well as by a change in the shape of the resonance cavity.

Instead of the vocal cords, the investigating scientist, Sir Richard Paget, used a variable-pitched organ-pipe reed for the vibrator, and for the resonating system, (the pharynx and other cavities in the human vocal mechanism), he used a system of cylindrical cardboard boxes. When the pitch of the reed was kept at a certain low frequency, it produced the vowel E, (as in men), but when the pitch was raised by a more rapid vibration of the reed itself *without the slightest change in the shape or position of the resonators,* the vowel changed to an I, (as in ring); also to EE, (as in see).

This clearly illustrates the fact that tone-quality changes or vowel changes, (which mean the same as quality changes from the acoustic standpoint),

can be accounted for by *changes in the vocal cords themselves.* That the resonating cavities can change tone quality is, of course, not denied. This same experimentor produced different vowels by leaving the vibrator at the same pitch and re-arranging the resonators. Thus we are forced to conclude that each sound or 'quality' is the result of complex interadjustments between many parts of the entire vocal organism.

The world is ONE whether you divide it into the Western and Eastern Hemispheres or into North and South by drawing imaginary lines around the circumference. Those who wish to separate the voice into different compartments called REGISTERS have as much scientific right to chose the number of their divisions as the geodetic scientists who divide the globe into longitudes and latitudes, providing they give us good reasons why their 'theory' will be of some practical benefit. If their theory is based on 'resonance adjustments', it may be of value. It may also be of value if it is based on some other natural phenomenon, such as the action of the vocal cords. A 'register' theory may even prove of practical value when based on some *highly hypothetical* action of 'crico-thyroid' and 'aritonoid' muscles, in determining two distinct voice quality adjustments. The *best* registration theory, however,

must be one which is based on the most solid foundations. Such a theory will take into consideration the greatest number of possible factors including both the laryngeal and pharyngeal actions. Such a theory will look at the voice as a product of *MAN as a whole.*

First, let us consider the THREE REGISTER THEORY. One of the very first of the books published on the subject, (during the first part of the Eighteenth Century, by Pietro Francesco Tosi), speaks of three registers and advocates their equalization, but does not tell us how this is to be accomplished. This, one of the most widely-used theories, can be made to conform with modern scientific discoveries if viewed from the following standpoint. It is an easily observable fact that the tones of the so-called MIDDLE REGISTER sound AS IF they were produced in the mouth. Without scientific investigations we would not even know that we have such things as vocal cords. The very low tones sound AS IF they came from the chest. The extremely exaggerated low tones of the cartoon character 'Pop Eye' even sound AS IF they came from even lower than the chest. I know a man who earns his living imitating Pop Eye in publicity stunts. If you asked him how he proceeded to practice getting those low tones, he would tell you that he kept 'placing his tones in

the stomach to make them sound real low'. Modern scientists deny that there is any such thing as 'chest resonance' but admit the fact that the 'trachea and bronchi' probably play an important part in the resonating of the lower tones. Where are the windpipe and its branches if not inside the chest? What is wrong or misleading about calling it 'chest resonance' instead of 'trachea plus bronchi' resonance, for practical purposes? Many vocal teachers have found that by telling their pupil to 'place' or 'think of the tone' or 'put it' in the chest, they can get him to take a very low tone with much greater ease than in any other way. The really efficient teacher uses such procedure *only for the sake of expediency,* and never really insists that the pupil learn to sing in three different 'registers'. He somehow, (in some empirical fashion, that is mostly by taking advantage of the student's power of imitation, and his own excellent ear) , manages to make the pupil 'equalize' or 'blend' the 'low register' into the 'middle register' so that there is no outstanding break between the different voice qualities. Having learned from the modern scientific investigator that the PHARYNGEAL CAVITIES should be allowed to make their proper adjustments as the MOST IMPORTANT RESONATORS, he teaches his pupils to understand that a tone properly produced in the

throat will actually sound less throaty than a 'MOUTHY' tone. It is quite natural that the very high tones should give one the impression that they are coming from some place upward from the chest, (in the head). The very word high suggests that. The action of the entire resonating system consisting mainly of the (1) larynx, (2) oral pharynx, and (3) the trachea, can be divided into three imaginary parts and used to some advantage in case of expediency by the efficient teacher who understands the laws of physiology and acoustics.

However, it must be admitted that few vocal teachers do take such a view of the THREE REGISTER THEORY. Many teachers still try to make the pupil 'place' the middle tones in the mouth, the low tones in the chest and the high tones in the head, unaware of certain facts—for instance, that continuous attention to the chest must interfere with the naturally rhythmical tension-relaxation, tension-relaxation, etc., action of the thorax necessary for a correct Vibrato in producing the tone.

The teachers who claim that because there is only one voice, there must be only ONE REGISTER are in the same position with those who say that there are NO REGISTERS, as well as those who look at each adjustment that is made by the co-ordinated action of the vocal organs as a sepa-

rate 'register', because their only reason for advocating a ONE, MANY or NO REGISTER THEORY is to prove that the problem of REGISTRATION does not exist. Many of these teachers base their entire method on the fallacy that correct pronunciation of consonants and vowels plus attention to pitch and breathing is all that is necessary for the development of the voice. The following naive statement by a voice teacher is not at all unusual: "By giving special attention to vowels and correctly used consonants, I achieve perfect enunciation, and with constant attention to proper breathing and intonation a mediocre voice emerges into a truly lovely one". True that the development of the singing and the speaking voice are practically the same processes. But since the vigorous development of the vocal organs is possible only through first establishing the VIBRATO action of the mechanism, and since the VIBRATO is absent in the properly-used speaking voice, SINGING, NOT SPEAKING, is the basis for the correct development of the entire voice. Among my pupils there are often public speakers. Those who had never studied tone production before are usually surprised at the improvement obtained in the 'quality', 'volume' and 'range' of their voices and their ability to use their

speaking voices for greater lengths of time without tiring.

There are other methods of voice training in use by the teachers who disregard the problem of registration. These mostly take some well-known or apparent principle and, by over-exaggeration of its importance, like so many faddists of the healing cults, hypnotize themselves and their followers into believing that they have discovered the 'whole truth and nothing but the truth'. As I mentioned in a previous chapter, a prominent voice specialist writes a book to prove that 'imitation' is the only rational basis for voice culture. I should like to know if there is a voice specialist any where who would openly admit that imitation is the main basis of his method of instruction. Imitation is sometimes very essential as, for example, to illustrate to the pupil how a good 'AH' should sound. If imitation were really the most important factor, the ideal voice teacher would be a Caruso and the ideal pupil would be a good 'parrot'.

Another of these exaggerations of an apparent principle is the famous 'nasal resonance' theory. Everything else is secondary to the importance of 'inducing nasal resonance', as it is called. The pupil sings, 'Hung, Hung, Ming, Ming, and Enga, Enga', etc., until the voice is 'placed' more in the

nose. The very excellent scientist, Douglas Stanley, in his book, Voice Production and Reproduction, says that, "The nasal cavity exists as do the sinuses. They must have some effect upon the resonance characteristics of the system, as must even the ventricles of the larynx, but they can not be 'switched on and off' at will during the act of phonation." From this it appears that 'inducing nasal resonance' is an impossibility. He also says that, "The voice is not a material something that can be 'directed', 'placed', etc." However, in the same book this scientist states that in the case of NASALITY, "The singer's palate comes into a high degree of tension, and an excessive transmission of sound waves occurs through the nostrils." In other words, he admits that the singer directs his voice into his nose. Teachers who emphasize the 'nasal resonance' idea, therefore, are deliberately trying to make their pupils produce nasal tones. But nasal tones are not necessarily *bad* tones. There are different kinds of nasal qualities. For example, the 'nasal' tone of the French singer when he sings in his own language is not in the least objectionable. To say that a nasal quality of *any kind* is undesirable and should be entirely eliminated would be equivalent to saying that the nose itself should be amputated. The nose, regardless of anything we may be able to do about it,

affects the qualities of our tones. That is, every tone has some degree of 'nasal color' in it. However, the truly scientific teacher must guard himself against over-estimating the importance of any factor or combinations of factors in formulating any voice method, such as, for example, the 'nasal resonance' idea, which should really be called the 'nasal color' idea; otherwise his theory will prove to be only a fallacy.

THE TWO REGISTER THEORY is as old as any of the other theories of registration and was probably first advanced by Mancini in the Eighteenth Century, who speaks of the necessity of equalizing the two registers but gives us no particular method. To Douglas Stanley, who fully describes his theory of registration in his book, The Science of Voice, belongs the credit for developing the most interesting method of voice training based on the 'two register' idea which is briefly as follows:

"There are two registers because there are two and only two groups of muscles in the larynx, the Crico-Thyroids and the Arytenoids. Registration pertains to control of intensity not to pitch ranges. In an ideal condition, or in the perfectly trained voice, for the given pitch, quality and intensity there should be a definite balance between these two extrinsic groups of muscles which actuate the

vocal cords. This would be called the 'co-ordinated voice'. The action of the arytenoids predominates for the *high pitches* and for the *low intensities*. The action of the crico-thyroids predominates for the *low pitches* and the *high intensities*. The two registers are called the LOWER REGISTER and the UPPER or FALSETTO REGISTER. When, for a soft tone which is being swelled, the tension of the vocal cords is being held against the breath pressure by means of ADDED tension on the arytenoids, the upper register is in action. When at a certain degree of intensity, ADDED tension comes onto the heavier group of muscles, (the crico-thyroids), the lower register comes into action."

A properly-produced, or a 'natural' voice, would be, then, one in which the tension of the two groups of muscles is properly co-ordinated. A pure LOWER REGISTER tone would be one that is produced, (theoretically), by tension of the crico-thyroids. A pure FALSETTO would be a tone produced by arytenoid tension, entirely, (theoretically). A badly-produced tone would be either a MIXED FALSETTO, (too much arytenoid tension for that particular kind of a tone), or a MIXED LOWER REGISTER, (too much crico-thyroid tension).

According to this theory, each pure register,

that is, the LOWER and the FALSETTO, must first be isolated and developed separately and then the two properly co-ordinated before the voice can really function at its maximum efficiency. The correct vibrato action and the proper resonance adjustments which are inseparable from the 'ideal' voice are concomitant with the purification and co-ordination of the registers. One does not exist without the others. This is indeed a more imposing theory than Mancini's statement that the TWO REGISTERS MUST BE EQUALIZED.

Now, when it comes to putting this 'scientific' theory into practice, it works 'perfectly' for those who believe in it. Those who do not, are accused of not 'understanding it'. As for scientific proof, the author himself says, "The theory which I am about to expound, of the muscular action in the larynx, is largely *empirical* and has not been subjected to ocular, physiological proof. Nevertheless, consideration of the physiology of the larynx, together with practical work on a very large number of voices, which work has been based on this concept, indicates very definitely that this theory is true. All the observed facts fall in line perfectly with my theory and I have found no evidence of any sort which tends to contradict it."

The weakness of the logic in the above statement is seen by anyone who stops long enough to

consider that the same argument has been used by many authorities, whose theories have now been proven to be absolutely fallacious.

As the laryngeal muscles, in addition to being very minute, are also covered with mucus, it is at present impossible to obtain even X-ray pictures of them. In applying the theory into practice, the teacher's ear has to be the sole guide to which tone is the 'pure lower register' one and which is the 'mixed falsetto', etc. No two ears hear the same tone alike. Those familiar with the mechanism of the human ear know that even the best ears vary in their abilities to hear certain tone colors. Therefore, no two voice specialists would apply the same theory alike. We can not do anything with the laryngeal muscles except keeping them in good health and developing them through the making of vigorous sounds. The division of the laryngeal muscular system into two parts draws a picture for us of the phenomenon of the two kinds of voices which are characteristic of the two opposite sexes that could be accomplished with better results for theoretical and practical purposes, without the necessity of attributing certain definite work to certain muscles, the exact function of which must for the present remain a mystery.

In the opinion of the writer, a physiological conception of the 'two register theory' based on

hypothetical actions of the arytenoids and crico-thyroids does not make it any easier for the teacher to train the voice than if the same theory were based on some well-known observable fact. The truly scientific person will not accept a theory based on *empiricism* if there is a real scientific way of arriving at a workable hypothesis.

The 'Arytenoid, Crico-Thyroid Register Theory' claims that the pure falsetto is always effeminate and should never be used for public performances. It must necessarily make this claim because 'after the voice is co-ordinated the singer can no longer produce a pure falsetto tone'. This is contrary to fact because all good tenors, in spite of the fact that they do not use the falsetto in their singing, can and often do use their exercises in the so-called pure falsetto. It has been my good fortune to have traveled and lived in many countries. I have heard cantors in the great Hebrew temples with voices that would compare very favorably with some of our greatest opera stars. (In fact, some of them have been offered opera engagements and have had to refuse on account of their religious convictions.) There is nothing effeminate about them, I assure you, yet occasionally, when it is necessary to obtain an effect of 'unreality' or to create the illusion of some 'spiritual world' as separate from our material world,

these cantors, through the use of the pure falsetto, do obtain some beautiful artistic effects. Imagine the plight of one of these often very highly-paid cantors who, having studied tone production under the above two register theory, had to tell his congregation, "I am very sorry, but I can no longer interpret for you the song about Elijah, the prophet, because my teacher has succeeded in co-ordinating my voice".

While living in China, I have heard Chinese opera stars sing all kinds of falsettos at the tops of their voices for hours at a time. The tremendous tension these singers apply on their 'arytenoids' should have ruined their voices in a few years, according to the theory under discussion, but it has not. The Japanese singer of native music, (not the highly-cultivated prima donna who has studied Western methods), sings in a peculiar low and deliberately throaty production that does not tire him in the least. He would tell you that thus sang his father and perhaps his grandfather for many years and would not believe you at all if you told him he was in danger of over-tensing his 'crico-thyroids' to the extent of losing his voice. Are these people producing tones that are not 'natural'? The Orientals are a more 'natural' people and have fewer inhibitions than we. The point I am trying to bring out is that a

'natural' tone can be either an ugly tone or a beautiful one, according to our taste, and that if we are interested in the production of *beautiful* tones, we must base our theory on a broader foundation than the unproven highly-hypothetical action of two small groups of muscles in the larynx. Can we not consider the voice as one of the ways of the behavior of man as a whole, and thus arive at a psychological method of Registration that is scientific in the broadest sense of the word?

CHAPTER VI

A Psychological View of Voice Registration

A SCIENTIST who claims that the proper 'mental concept' is the basis for all correct tones may yet labor under the delusion that a minute description of the physiological processes of a few of the muscles involved during the act of phonation, (sometimes purely imaginative and made to fit into some pre-conceived theory), will give the student that 'correct mental concept'. In the first place, the statement that the 'mental concept' is the cause of the 'physical act' is a decidedly unscientific one. There is no more evidence to show that the mental concept comes before the physical act than vice versa. Do we think because we speak or do we speak because we think? This question is not answered as simply as would appear on the surface. A study of the best in modern science will make it clear to us that the 'mental pattern' is as inseparable from the 'physical' as the 'grooves' in a phonograph record from the wax record itself. Unfortunately, too many so-called educated people still believe in 'ghosts'. What surprises me

most is that many of these idealists prefer so much the physiological explanations of man's activities. If physiology were really a more accurate science than psychology, I would not blame them for taking that attitude. Little is known about the many complex details involved in the mental processes of man, mainly because so little is known as yet about the physiological processes. The great scientist, Pavlov, was just as much a psychologist as he was a physiologist. His studies of how animals act under certain conditions have taught us much about the mind, although not necessarily more than the subjective contemplations of some of our pure introspectionists.

If we look into the action of man as a whole, (the true meaning of psychology), we can find that the phenomenon of two distinctly different ways of producing a tone as first vaguely suggested by Mancini over a hundred years ago and observed often by many vocal teachers the world over but somehow neglected, is the very best basis for a registration method available for the purpose of voice culture.

This much we know definitely: When a certain singing tone is produced, the vocal cords are brought into a high degree of tension by the action of a considerable number of laryngeal muscles. Which muscles predominate and which do

not is a highly speculative and not fully understood matter as yet. The tension at which the cords are held accounts for the pitch of that tone as well as its quality and volume, but not entirely for any one of these things. The adjustment made by the pharyngeal and other cavities is mostly responsible for the resonance, and also has something to do in influencing other characteristics of the tone. The action of the lungs, the diaphragm and the thorax in general determines the way the air is forced through the vocal cords, and the frequency and evenness of the 'vibrato'. The laryngoscope, phonograph recordings and other electrical devices have shown us only that a separate complicated adjustment of a combination of the above factors exists during the production of each different tone. Just what does happen physiologically when a 'falsetto' is produced, or some other tone quality, is not actually known.

Let not the reader get the impression from what I have said about 'registration' that knowledge of the vocal organs is not useful to us in studying tone production. True that the action of the organs as described above is subconscious and that we can not control it directly. The important part to remember is that there are many muscles the action of which is opposed to the correct operation of the vocal mechanism during phonation.

For example, holding the mouth *set* or the jaws *stiff* will interfere with the natural movement of the pharynx. Holding the throat muscles in the same position as if you were about to swallow will distort the proper action of the vocal cords. Stiffening the chest or the shoulders will interfere with the 'vibrato'. So that knowing how certain opposing muscles should NOT act and having the ability to control these muscles will enable us to train our subconscious vocal organs to work efficiently by *eliminating* the interference of these *consciously-controlled* muscles.

The sciences of Physiology and Acoustics have not sufficiently progressed to serve as the best basis for a theory of registration. The pupil will not be aided in the slightest by supposing that the 'crico-thyroids' are primarily responsible for one kind of action or that the 'arytenoid muscles' determine another kind of action. Is a beautiful tone something absolute and depending on a certain physical relationship? In other words, is it no more than merely the mechanical action of the vocal organs? What about the *chemical* action of the glandular system? Which gland secretes what juice and how much to produce a tone that has a certain emotional quality? What laws in acoustics are involved when the parrot, with his tiny lungs, vocal cords and resonance cavities, imitates a six-

foot baritone so well that close friends can not distinguish the difference in quality?

The teacher will find that he is standing on firmer ground if he tells his pupil as follows, "I find it necessary to strengthen and develop the entire muscular mechanism of your vocal organs before we are ready to consider the question of 'beautiful tones'. As a singer you will need to practice many kinds of tones to which you are not accustomed. Some of these are made with more ease by the female sex, as I have explained to you. Now, will you please imitate a woman's voice? You will find it easier to do so on a high note. Do not be alarmed if you merely get a 'funny sound'. That is why it is called a 'falsetto'. It actually sounds false. However, after practicing this kind of a simpler 'production' until it becomes *easy*, you will find that you will be ready to commence the practice of more complex tones with greater efficiency".

I base my theory of TWO distinctly different ways of producing a tone on the self-evident fact that there are TWO sexes, the male and the female. The biological differences of the two sexes are reflected in the behavior of each. Their reactions differ. Some of these differences are due to physical differences and some to training and custom. The movements of the female are character-

ized by a certain softness and lightness that is becoming to her. The man walks with a heavier tread. His touch lacks the delicacy of the fair sex. Elegance and delicacy, so becoming to one sex seem ridiculous when attempted by the other. If you were trying to imitate the sound of a woman's voice on a violin, you would naturally play either the higher pitches or, if you were using a lower pitch, you would play softly to avoid giving to the tones the characteristic colors that suggest strength, firmness, etc., that society has become accustomed to calling 'masculine qualities'. If you wished to play a tone on the violin suggesting 'unreality', for instance, the 'falsetto' of a man trying to sing like a woman, or a 'voice from some other world', you could obtain that effect best by using what is called a 'harmonic' by a certain light fingering and bowing that would *just barely touch the strings*. A small man with small vocal cords will sound 'masculine' while a large woman with large cords will still sound 'feminine'. Operations on both sexes, disturbing the normal function of the glandular systems have been performed and when, as a result, characteristics of the opposite sex, such as, for instance, hair on the face of the woman or loss of hair on the body and face of the man became apparent, it was noted that the voice quality changed accordingly. It is a biological fact

that each sex has some anatomical peculiarities belonging to the opposite sex. Naturally, in the male such well-accepted psychological traits as firmness, courage, etc., should predominate. The feminine characteristics are expected to be beauty, elegance, etc. Civilized man is jealous of the social approbation he receives when he is judged to be a biologically normal human being. The number of people who openly take pride in any abnormality is very few. A person who uses his voice like one of the opposite sex will often spend many years of his life to obtain a more normal tone production that will not make him so conspicuous. Men who act hysterically or easily get excited and raise the pitch of their voices have always been accused of 'acting like a woman', even in primitive society. However, society is usually just and does not call a man effeminate merely because he learns from the other sex. Each sex can safely copy some of the voice technic of the other if it is used merely as a means to a proper end.

Now, as far as we can make any scientific conclusion from the above phenomena, we may assume that the 'light action' characteristic to woman is Nature's best way for producing either a high pitch or a soft tone, and that the 'heavy action' characteristic to man is the best way to

produce loud tones or low pitches. I, therefore, call the two registers HEAVY and LIGHT.

Just as the ideal man would be a gentleman—that is, one who combines the feminine virtue of *gentleness* with the manly qualities characteristic to the stronger sex, so would the ideal voice be a good combination of the two registers. Many teachers have observed that the voices of most people who produce poor tones sound AS IF the two registers, commonly known as the 'lower' and the 'falsetto', were conflicting with each other.

The technic for obtaining the registration necessary for the ideally adjusted voice would be, then, to first establish the correct mental concept by means of a clear psychological explanation of theory, then proceed to develop each register separately. In reality there is no such thing as an absolutely 'light register', (pure falsetto), or 'heavy register'. Each human tone must have some combination of both qualities. The pupil, male or female, should be told in the beginning to make his lower tones in a full heavy manly way, starting at a very low note, usually lower than he is accustomed to singing, with the understanding that he is not to become anxious about the 'quality'. To the female pupil these tones will sound 'chesty' and just as 'funny' as the falsetto tones to the man. The light register, or fal-

setto, can be obtained best by 'imagining' the singing of a soprano, in the case of the male singer. The female singer can get the mental concept by 'imagining' the singing of a very light coloratura. It is surprising how easily this can be done by the average pupil as soon as the correct mental picture is established. Each register should then be developed by itself. The heavy register, commencing on a low tone with full voice, can be carried up on an ascending scale well past the point where the student feels the necessity for changing the quality, by a continuous increase of volume as the pitch rises, without paying attention to the generally 'harsh' quality of these loud tones.

The light register is best developed by starting on a high pitch and descending the scale, decreasing the volume to a pianissimo on the lower notes. At the same time the teacher, who, of course, must be a good psychologist, should obtain all the clues he can about the 'mental conflicts' consciously or subconsciously present in the pupil's mind. Does the pupil show signs of complexes that he would indignantly deny? Does he masquerade his inferiority complex under the name of superiority complex? These questions carefully studied and sympathetically and diplomatically handled by the voice teacher must also

be solved in addition to the 'untangling' or isolation of the two registers.

As soon as the pupil learns to practice with self-confidence exercises in both registers, he must be reminded that this is merely a 'means to an end'; and that the physical exercise given the laryngeal apparatus over such great variations in range and intensity is very beneficial. Any teacher can recognize the difference between the 'falsetto' and the heavy or so-called low register tone.

The greatest of artists will *not necessarily agree* on which is the 'beautiful' tone, and since each teacher is and should be the judge of the *correctly* produced tone of his pupil, there can be no scientific rules for *co-ordinating* the registers, unless we mean by 'co-ordinated' merely a tone made with just a certain amount of physical tension—in other words, a perfectly 'natural' tone. But a tone without the slightest sign of 'mixed' registration, produced with great ease, may yet be as unbeautiful as the tone of a player-piano. 'Natural' and 'beautiful' are not synonymous. Therefore, as soon as the pupil is able to produce a wide range of tones with a reasonable amount of ease, with the two kinds of general elementary and easily recognized adjustments, he should be given to understand that he has reached the stage in his development which will enable him to subcon-

sciously select a tone combining the 'qualities' of both registers with a closer approximation of a 'beautiful' tone. The 'beautiful' tone is a purely relative conception. Unlike the co-ordinated tone of the 'laryngeal register theory', the 'correct' tone may be natural whether it is the 'shrieking falsetto' of the Chinese opera star, or even the 'throaty tone' of the native Japanese singer, or the 'bel canto' of the Western concert singer, as long as there is no conscious or sub-conscious mental conflict.

As soon as sufficient progress has been attained in overcoming the inhibitions of the pupil and he can use his vocal organs with mental and physical ease, he should be given exercises that are *attractive melodically,* to stimulate the imagination so that he will be guided subconsciously in the production of beautiful tones by his *new* mental concepts that are no longer distorted by his former fears.

The pupil can learn how to build and keep in good repair the instrument called his Voice, physiologically by thoroughly exercising it over the greatest possible scope from the standpoint of pitch and intensity by means of the two registers, and psychologically by striving to overcome the *mental conflicts* that prevent him from using his

voice naturally. After that he becomes the possessor of *a good vocal instrument* ready for use. How well he uses it depends upon his musical and dramatic talents and his ability to develop them.

CHAPTER VII

The Theory and Practice of Vowels and Consonants

STRICTLY speaking, a tone is not only produced on a vowel but *the tone is the vowel.* From the standpoint of physics the slightest change in the *quality* of a tone changes the vowel, and vice versa. Quality changes distinctly recognizable by the ear may be called separate vowels. In the English language there are many vowels. In Italian there are only five. Before the nature of the vowel was correctly understood much time was devoted by teachers to the accurate shaping of the lips and tongue for each vowel. Today many of even the famous teachers cling to this idea without realizing that constant attention to the shaping of the mouth for a vowel is equivalent to interfering with the automatic adjustments of the throat, (or pharyngeal cavity), that keeps changing *continually* during the singing of the performer as his *tone qualities, fundamental* or *vowels* are also constantly changing. The fundamental or pitch of the tone may be, for practical purposes, consid-

ered independent of the *vowel*. That is, you can, apparently, sing different vowels on the same pitch. But this is not true always and is only possible because within a certain range the frequency of the vibrations of the fundamental is not higher than that of the vowel. However, if a woman were trying to sing a clear 'EE' on a high note above high C, she would have to change the vowel or otherwise sing out of pitch, because the natural frequency of the vowel 'EE' is lower than that of the very high fundamental. Coloratura sopranos who understand this principle do not waste time in trying to do the impossible but achieve artistic results by modifying the vowel and not disturbing the pitch.

That we unconsciously realize this continuous change in quality or vowel without paying much attention to it is seen from the fact that even the very intelligibility of a word is not necessarily destroyed by a change in vowel. Take the word 'potato', for example. You could substitute many other vowels for any of those in that word—'pitato'—'peetato'—'potatah'—so on indefinitely, and the word would still be recognizable. But try to change even one consonant without making the word unrecognizable. It would be much more difficult although not impossible.

From the above it can be seen that the con-

sonant—not the vowel—is the most important factor that makes for intelligibility, of words. From the standpoint of tone production, consonants may be considered as 'interruptions of the even flow of the tone'.

The singer, then, must vocalize on vowels and he must form those vowels 'pharyngeally' and not by shaping the lips for each vowel. It is true that the tongue and mouth will change their positions for the different vowels, intensities and pitches, but these must be considered as purely subconscious processes requiring conscious interference only in certain unusual cases, as in learning the pronunciation of some unusual vowel, or in a foreign language, or for the sake of expediency in abnormal cases.

The five *pure* vowels best used for practice purposes are 'A' as in 'father'; 'E' as in 'get'; 'I' (EE) as in 'meet'; 'O' as in 'soft'; 'U' as in 'truth'. Any vowel may be called pure if it does not tend to change and become diphthongal as most English vowels do when prolonged. For instance, 'A' in 'fate' is really equivalent to the two vowels, e-i, etc. To get the correct sound of any vowel that you are not sure of, first find a word containing that vowel and listen carefully to the sound of it in that word. Then listen carefully to the sound as pronounced by your teacher, who should be able

to correctly pronounce vowels in several languages. Personally, I have never had any patience with the teacher who says 'leetle beet' for 'little bit', and raves about the beauty of some foreign language.

Stand in front of the mirror and practice saying the different vowels on a *low pitch* in a good *clear voice, without holding yourself back* or trying to *'speak softly'*. First, open your mouth about the width of your thumb, wide enough to say the vowel 'AH'. Then practice on the other vowels without changing the shape of your lips and paying no attention to position of the tongue.

The proper formation of the consonants and their distinct articulation are of the utmost importance for clear diction. Use of the throat cavities for the resonating of the vowels leaves the lips, jaw and tongue all the more free for producing correct and vigorous consonants. Since the lips and tongue used in the formation of consonants are easily controlled by the conscious mind without interfering with the subconscious tone-producing organism, it is beneficial to practice carefully the formation of consonants, a description of which follows.

LIP CONSONANTS

P	*B*
Vocal Cords Do Not Vibrate.	*Vocal Cords Vibrate.*
Close the lips—teeth slightly separated—tongue relaxed. Open lips suddenly with an explosion.	Otherwise same as P.
W (as in well)	*W* (as in when) *Vocal Cords Vibrate.*
Lips close together, slightly protruding. Force breath to escape slightly audibly and continuously.	Otherwise same as W.

LIP—NASAL

M

Vocal Cords Vibrate.

Lips held close—teeth slightly separated. Tongue relaxed. Breath escapes through nose.

LOWER LIP—UPPER TEETH

F	*V*
Vocal Cords Do Not Vibrate.	*Vocal Cords Vibrate.*
Close mouth with upper teeth touching lower lip. Tongue relaxed. Force breath through rapidly.	Otherwise same as F.

TONGUE—NASAL

N

Vocal Cords Vibrate.

Edge of tongue against upper teeth. Teeth separated. Continuous breath through nose.

TONGUE—UPPER TEETH RIDGE

T	*D*
Vocal Cords Do Not Vibrate.	*Vocal Cords Vibrate.*
Keep teeth slightly separated. Touch upper teeth ridge with edge of tongue quietly but firmly. Let go the tongue with explosion.	Otherwise same as T.

L

Vocal Cords Vibrate.

Tip of Tongue against teeth ridge, sides drawn in. Lips parted and teeth parted. Force breath continuously over sides of tongue.

TONGUE—UPPER BACK TEETH

R

Vocal Cords Vibrate.

Place sides of tongue against upper back teeth. Raise tip toward teeth ridge without touching it. Lips parted. Force breath continuously over tip of tongue. Final R should be pronounced less distinctly than the initial R.	(For the rolled R, not used in English, tap the tip of the tongue rapidly against the edge of the teeth.)

THROAT

H

Vocal Cords Not Used.

Force breath through mouth continuously with slightly audible throat friction.

SOFT PALATE—TONGUE

K	*G*
Vocal Cords Do Not Vibrate.	*Vocal Cords Vibrate.*
Teeth separated. Raise back of tongue against soft palate. Drop tongue with explosive puff.	Otherwise same as **K.**

TONGUE BETWEEN TEETH

TH (as in think)	*TH* (as in thine)
Vocal Cords Do Not Vibrate.	*Vocal Cords Vibrate.*
Lips parted. Tip of tongue between teeth. Force breath out through narrow space between tip of tongue and upper teeth, continuously with audible friction.	Otherwise same as TH.

SIDES OF TONGUE

S	*Z*
Vocal Cords Do Not Vibrate.	*Vocal Cords Vibrate.*
Tip of tongue touching lower front teeth, or raised toward gum back of front teeth, sides of tongue against upper side teeth. Lips parted. Form narrow groove in the front of the tongue and force the breath through it.	Otherwise same as **S.**

SH	*ZH* (azure)
Vocal Cords Do Not Vibrate.	*Vocal Cords Vibrate.*
Sides of tongue not so far forward as in S. Make groove broader drawing tongue somewhat back. Form wide groove in back of tongue and force breath through it.	Otherwise same as SH.

TONGUE—HARD PALATE

Y

Vocal Cords Do Not Vibrate.

Lips parted. Teeth separated. Front of tongue against hard palate, tip downward toward lower teeth. Make groove in tongue and force breath through it continuously, making a slightly audible friction.

The letters J, X and Q may be considered as complex consonants because they consist of a combination of simpler sounds.

Thus J = the two sounds, DZH
X = the two sounds, KS
Q = the two sounds, KW

CHAPTER VIII

Your Mental and Physical Attitudes During Practice

IT IS my desire to help you in the improvement or development of your voice—the most potent part of the personality which is YOU. What is this 'YOU'? Some learned scholars would have us believe that you are some 'all spiritual entity' or 'Mind', and are merely using the crude framework of your body for the practical working purposes of our earthly world. Others claim that your 'body' is the entire reality and the 'Mind' merely the function or 'behavior' of the material body. From the behavioristic standpoint there is really no such thing as 'Mind' at all. There is also another school of thought, although its adherents are vastly in the minority, which rejects both of the above views and actually denies the existence of not only the material body but of the entire material world as well. Regardless of the school of thought to which you belong, in your every day life you continually act 'AS IF' there were two main parts of YOU. If you are solving a mathe-

matical problem, you throw the main burden of responsibility on that part of you which you call 'mental', and if you have to carry a suitcase, you consider that act mostly physical. In both cases you admit that those acts are *partly mental* and *partly physical*. However, in looking at you I observe another peculiar phenomenon. You neither carry your suitcase nor solve your mathematical problem nearly as gracefully and as efficiently as you 'circulate your blood'. You would not know that your blood does circulate if you had not learned that fact at some time during your education. From that and other observations of your 'subconscious' or 'automatic' acts, I conclude that *the less you are aware* of any bodily act *the more efficient you are in its performance.*

At first this would seem almost a contradictory statement. For instance, if I asked you to play a scale on the piano, and you were just a beginner, you would have to become *extremely aware* of each key on the piano within that scale in order to execute my request. However, if you played the scale daily for a long period of time, you would become so expert at its performance that there would no longer be any necessity for your MIND consciously to direct your fingers. Your fingers running over the keyboard 'automatically' would perform so well that you could turn the attention

of your mind to something else, perhaps conversation with someone, or the reading of a poem, at the same time that you were playing the scale. That is—by conscious and correct repetition of an act we may form the habit of *subconsciously* doing that same act in an exceedingly more efficient way. That is what is meant by telling a pupil to 'learn' in order to 'forget'. But be sure to *learn* first. One of my pupils brought this fact to my attention in the following way. She had been studying with a teacher and, finding that she had difficulty in breathing, asked her teacher to show her how to breathe correctly. The teacher replied, "Oh, just forget about it. Go ahead and breathe naturally. Imagine you are smelling a flower." The pupil replied, "I have difficulty with my breathing, which means that I do not know how to breathe naturally. Before I *'forget it'*, as you advise me, I must first 'learn it'." However, should you repeat a certain bodily act over and over again in an incorrect manner as, for example, playing the piano with your fingers bent in the wrong direction, you would eventually weaken the muscles involved, instead of strengthening them as is absolutely necessary in order to become a proficient pianist.

From this, I hope you will understand that the first problem before all good voice teachers is to

establish the correct 'subconscious' or 'automatic' action of the muscles involved in the act of tone production.

You may well ask this question, "Why do not the muscles of the larynx and pharynx act automatically? Is it not natural to talk or sing? We have been using those vocal organs for perhaps hundreds of thousands of years. It is about time they should work naturally and respond automatically, isn't it?"

The answer is as follows: Whenever we continually interfere with a natural act through a great number of years, we arouse certain bodily and mental conflicts that tend to change what should be a natural automatic act to an artificially distorted act. Take, for instance, the typical case of a man who uses his voice poorly. (By that I mean the great majority of the civilized people of the world.) Very likely his first 'conflict' may have started somewhat as follows: Perhaps when but a baby he screamed desperately because his little undies were too tight, only to be misunderstood by his devoted mother, who kept on offering him a drink of milk. This may have been the first stamp on his subconscious mind of the painful experience of discovering 'how dumb the other fellow is', that it does not always pay to say what you mean, and so on. Later on the child may have

found that other children laughed at him in school because he pronounced a certain word 'funny'. He may have been told, like most Anglo-Saxons, that 'children should be seen but not heard'. When he tried to sing, his brother may have told him to 'shut up that awful noise'. Many of these experiences may have happened so many years ago that they may have been almost forgotten; BUT THE MIND NEVER FORGETS ANYTHING; it merely stores every occurrence away *in the subconscious from where* it sometimes comes out at the most unexpected moments. Have you not had that experience? Having become conscious of the fact that one uses his voice poorly, there comes a fear to the person who develops what is known as an 'inhibition'; that is, he has doubts as to whether he can ever improve his voice or whether he should even attempt to sing or not. At all times these 'inhibitions' prevent us from being 'natural', and unless they are overcome through proper training and understanding, our inner conflicts may become so aggravated that we may lose the voice entirely. If the conflict is mostly mental, we may lose our desire to use the voice and try to compensate ourselves by deciding that we are really naturally quiet people who 'never did care to talk much anyway', or that we would rather read or paint or knit and not be bothered with

empty conversation. The conflicts may be physical as in the case of those who try to improve their voices and go about punishing their vocal cords by making them do their work 'against nature'. Eventually the vocal muscles simply break down through the strain imposed upon them, and then the victim decides that he has been smoking too many cigarettes or that his doctor did not remove his tonsils properly.

Now, then, we are ready to say that your first problem is to commence 'overcoming your inhibitions'. Don't misunderstand me. I am not giving you that idiotic advice of conquering fear. I see nothing wrong in your being afraid to accept an operatic engagement because you have only studied six months and your teacher has advised you that your vocal cords will not as yet stand the strain. I do not advise you to hypnotize yourself and say, "I am not afraid of anything". However, I do advise you to make every effort to understand that a great number of your fears are groundless and entirely unnecessary. In the case of your 'inhibitions' that prevent your practicing your voice exercises correctly, these will surely vanish if you keep on establishing the proper mental and physical attitudes.

You are about to begin exercising your voice and you want to know first, the correct mental

attitude, and second, the correct physical attitude, BEFORE YOU START. Here are your instructions.*

Mental Attitude

Strive to bring yourself into the *right* mood—stimulate your imagination with thoughts as follows:

"I am about to begin working on my vocal exercises. I must be in the mood for it. If I am not in the proper mood, I know *I can make myself be in the mood.* For the next thirty minutes I am going to cast aside all my other problems and confine myself to my present task with all my heart. Just like a bird, I must be stirred emotionally before I can sing. Confidence! Triumphant achievement! Delightful realization of the fact that I am gratifying a powerful desire for self-expression, *which I will no longer keep hidden.* Through the stimulus of my imagination I can see myself succeeding. A smile of soothing satisfaction comes over my entire self, both inwardly and outwardly! Vigor—Life—Enthusiasm—'A warm heart and a cool head!' These will be the uplifting thoughts that will surely stimulate my entire being. I am about to use my voice as fear-

* It is understood that whenever possible all exercises should be commenced under the supervision of a teacher.

lessly, vigorously and correctly as it is possible for me to do at my present stage of progress".

By similar exercises as the above you should continue to develop your imagination.

Physical Attitude

Stand up straight before a mirror. Be sure you do not stand 'swayback'. Take a good look at yourself. Are you embarrassed? At first it will be more difficult to 'be natural' while you watch yourself in the looking-glass than if you were looking at some object 'nowhere in particular'; but I find the mirror an excellent means in helping the student to overcome incorrect posture and other faults. As soon as you overcome your 'inhibition' of watching yourself in action and seeing yourself as others see you, you will find it surprisingly easy to devote a certain time of your practice to working before a mirror.

Are you knitting your eyebrows? Corect that. Say something pleasant or funny aloud, until your facial expression is less serious—not 'relaxed' or sleepy—but more as if you were greeting an old friend: "Well, Mrs. McGinty, it is indeed a pleasure to see you again! How are the children?"

Now your face has assumed a pleasant expression. Your forehead is not wrinkled. Your arms should drop naturally by your sides. You should

stand with one foot slightly forward and obtain an easy natural balance. Your head should be straight and not tilted in any direction. Look at your reflection in the mirror as if it were someone else, not you, and ask yourself this question: "Does that man really look like someone who is about to enjoy the performance of some vocal exercises, or does he look as if he is about to have his teeth pulled?"

Let us assume that your face now has just the expression you feel it should have, after reading my instructions. Now, how about your neck? Does it feel stiff? Relax it. Drop the head forward naturally without forced tension and slowly turn it to the left. Repeat a few times. Do the same in the opposite direction. Now drop the head back as far as you can. Turn slowly as far as possible to the right, then to the left. Do the muscles of your neck feel better now? How about your shoulders? Your chest? Do they feel stiff? Release the tension. Just command them mentally to remain at ease. Check up on the joints in your elbows, your wrists, your ankles, your knees. Give out the order to all these possible places of too much tension to 'relax'. Now, look at yourself. Are you not more like the self-confident professional artist about to perform than the bashful schoolboy about to recite his first 'piece'?

The importance of the correct mental and bodily attitudes can not be over-estimated for singers and speakers. You must *look* right, *feel* right, as well as sound right. The main problem of the artist is to make his audience *feel certain emotions.* If he himself feels uncertain and uncomfortable and assumes an incorrect bodily posture, he transmits a feeling of anxiety to his audience that makes it difficult for it to give proper attention to his performance.

However, no normal intelligent person need seriously worry about his inability to overcome the above handicaps. I have told you what to do to correct your mental and physical attitudes, if they need correction. With practice you will discipline the imagination and the muscles to do exactly as you command them. Soon, the moment you are about to commence singing or speaking before yourself in a mirror or before an audience, your 'body' and 'mind' will reward you by the proper education you have given them and will do the work automatically for you whenever necessary.

CHAPTER IX

How to Breathe Correctly During Singing and Speaking

IF from the preceding chapter you have learned to understand the correct physical and mental attitudes necessary for the singer and speaker, you are now prepared to consider the question of proper adequate breathing during the process of vigorous exercising of the vocal organs.

In Chapter II I discussed the fallacy of the 'vocalized breath' theory and remarked on breathing in general. And now I shall explain the correct way of breathing. If you were exhausted and had to take quick 'abnormal' breaths, you would probably raise your shoulders, pull in your abdomen and fill your lungs by raising your chest. Then you would exhale by lowering your chest. However, during singing even the most difficult passages, (with the exception of cases where, in a play, you deliberately need to act the part of an exhausted person, or perhaps an athlete about to lift a heavy weight), breath should be taken with the breathing apparatus working in a 'normal' manner.

It is agreed between vocal teachers that the shoulders should remain still during the act of breathing. Yet, as I mentioned at the end of Chapter II, there is still a great deal of conflicting opinion about whether the abdomen should flatten, (go in), or expand, (go out), during inhalation. To clarify this point I quote an excellent description of the process of breathing from 'The Science of Life' by H. G. Wells and Julian Huxley, as follows:

"The diaphragm is concave downwards, attached round its edges to the ribs, backbone and breastbone, but free in the middle. Its central part is of tendon, but its marginal part consists of radiating muscle-fibers. When these muscles contract the domed center is pulled downwards; the diaphragm flattens, pressing on the liver, which lies immediately beneath it, and on the other abdominal organs, and at the same time *it helps to increase the volume of the thoracic cavity. Let us note in passing that contraction of the diaphragm, since it presses on the organs in the abdomen, must be accompanied by a slight bulging forward of the abdominal wall.*" The italics are mine.

From the above it can be plainly seen that the voice books which show the abdominal wall receding during the act of inhalation are mistaken

in their conception of the physiological process of correct normal breathing.

Since, as I have previously explained, 'breath control' is equivalent to interference with the natural action of the vocal organs and can only be looked upon in the proper light when regarded *as the result* of the natural co-ordination of the muscles working in a purely subconscious manner, the only thing to which we can pay conscious attention in establishing correct breathing is the PROCESS OF TAKING IN THE BREATH, (INHALATION).

Exercises.

1. Place the palm of your right hand on the upper part of your abdomen and the palm of your left hand on the small of your back where, with a little practice, you will soon feel the movement of the 'dorsal muscles' during breathing.

2. INHALE slowly with the mouth open, and feel the abdominal and back muscles EXPAND. The upper chest and shoulders should not move.

3. EXHALE naturally. Do not hold back the breath in any way. Simply allow the air to escape. Pay as little conscious attention to exhalation as possible. Simply 'let go'. And if you have *inhaled correctly* according to the above directions, you will find that the front abdominal wall and the

back 'dorsal' wall will CONTRACT. The shoulders and upper chest should not move.

4. Place the hands on the sides near your waist line. Note that the lower ribs EXPAND SIDEWISE during correct inhalation as in Exercise 1.*

Some people have difficulty in carrying out the above directions and find that they can make their shoulders stay still better when practicing these exercises for a little while lying down. As soon as the correct action is established, these exercises need no longer be practiced by themselves without vocalizing, because our problem, (with possibly rare exceptions), is not especially the development of stronger breathing muscles, but it is the establishment of *more normal adjustments between the organs involved in the act of singing.*

As soon as the pupil thoroughly understands how he may improve his breathing by paying special attention to INHALATION, he should practice until the process becomes automatic, so

* Physiologists tell us that in women (for biological reasons of special significance during child-bearing), the movement of the sides—that is, the expansion of the lower ribs—is more prominent than the movement of the front abdominal wall. Some of the old vocal teachers even advocated a different style of breathing for women than for men. For our purposes the exercises are exactly the same for both sexes. It is of no importance which movement is more prominent. The thing to remember is that the abdomen and lower ribs expand at the same time during inhalation.

that during singing or speaking there will seldom be any necessity for conscious attention to the problem of breathing outside of such questions as the proper place in a song or speech to QUIETLY take a breath.

CHAPTER X

Practical Lessons in Voice Development

THERE is no inherent value in any particular exercise in itself. The benefit derived is from the way it is practiced. That is why the method is so important. Go to the studio of the voice teacher the world over. Listen to a lesson given in tone production. The pupil may be a beginner or an accomplished artist. The number of exercises used is very small. The beginner must practice fundamental exercises constantly during his entire course of study in order to develop his voice, and the artist must practice on the same exercises in order to keep his voice in good condition. It is like the athlete with his 'daily dozen'.

The most important thing then is *how* you are going to practice the exercises I am about to give you. If you have studied the theoretical part of this book carefully, you perhaps have a better understanding of how to undertake the practical application of theory into practice.

Above all, you must know that although FEAR is your greatest enemy, do not try to dope your

mind by such pseudo-psychological nonsense as saying to yourself, "There is no such thing as fear." You do not have to fight fear any more than you have to deny it. Flying *away from* reality is the same as flying *towards* insanity. Try to understand what fear is. Fear automatically tightens your throat. It interferes with your breathing. It is perfectly natural that it should, for when hiding from the pursuit of a wild animal this may prove an excellent mechanism for holding one's breath. This may be considered a basis of all fears, a perfectly natural reaction in the struggle for the 'survival of the fittest'. The question is, when it is right to be afraid and when it is wrong to be afraid. Psychiatrists tell us that there is less shell shock among the soldiers who openly admit their fears to themselves and their companions, but who nevertheless go 'over the top' and do their duty, than among those who keep on fighting, conquering fear, and denying reality to themselves.

Before you commence a vocal exercise say to yourself, "Have I anything to fear? Am I afraid that I might wake up my neighbor who is suffering from some illness? There is nothing for me to be afraid of; therefore, there is no reason for me to sing 'softly'—in other words, to hold my voice back. I don't have to shout either, because

that would be only fooling myself, the usual defense mechanism of people with 'inferiority complexes' thinking they have 'superiority complexes' and that a 'superiority complex' is something good and desirable. But I shall be honest with myself. If I can not succeed in one moment in casting away all my inhibitions that have been with me so long, I shall be patient. I shall look for some physical manifestations of my mental fears during singing. These will be a stiff jaw or tongue, contracting or swelling of the neck muscles, stiffening of the chest or ribs, or any other part of the body under my conscious jurisdiction. I shall pay attention to these things, using good common sense, and eventually I shall be in a position to turn them over to a far better judge for muscular direction during the act of phonation—my 'subconscious mind'. IT WILL NOT BE SO VERY LONG UNTIL MY ENTIRE CONSCIOUSNESS WILL BE OCCUPIED WITH BUT ONE THING AND THAT IS THE THOUGHT THAT I AM SAYING OR SINGING SOMETHING THAT WILL BE OF BENEFIT TO HUMANITY AS A WHOLE, MYSELF INCLUDED."

Lesson I

Think of the vowel A as in 'father'. Open your mouth naturally—that is, without any stiffness, as if you were about to yawn. Inhale without moving your shoulders. Just as you complete your inhalation, let the breath out on a sigh, A. Do this several times until the act feels perfectly comfortable. You may pay conscious attention to obtaining a good *inhalation,* but let the air *escape of its own accord.* Do not control the exhalation.

Now, in a low pitched speaking voice practice the vowel A, (which is made, as you remember, 'pharyngeally', that is, not with the lips or in the front part of the mouth.)

AH? As if you were asking a question (with good natural volume) mezzo forte.
"AH? What did you say?"

AH! In a tone of surprise.
"AH! Here you are. I thought you had left me."

AH. In a tone of sympathy.
"AH, poor boy. Too bad you are so ill."

See how many different moods you can express with the vowel AH. Practice Ah to sound meaning "Yes". Practice the same vowel to mean

"No". These exercises are very important for the speaker as well as singer in obtaining automatic action of the vocal muscles for the production of tone and also for the purpose of controlling the color of a sound by means of varying the emotional mood. This is the very fundamental of all singing or acting with 'feeling'. It will pay you to work long and carefully on this exercise.

Lesson II

The purpose of this lesson is to free the 'heavy register' and develop it separately from the 'light register'. It is as if, being dissatisfied with the unpleasantly 'mixed' sound of our tones, we decided to simplify our task of developing the vocal apparatus both psychologically and physiologically by isolating two generally conflicting adjustments of the entire mechanism and treating each one independently for a while until they are ready for a happier interadjustment. We do not as yet know just what muscles are involved here, but we do know that the 'coon-shouter' does make those peculiar noises because she continually uses her 'heavy register', and that the popular radio tenor who croons in a manner so unpleasant to those of us who love good music does use his 'pure light register', or 'falsetto', entirely too much.

Most of the rest of us are struggling with tones that are but a poor combination of the two mentioned general varieties of tone qualities. Now then, we shall begin by first practicing the production of tones comparatively low in pitch and high in intensity— (that is, with great volume) — with a robust, man-like quality. This may sound fine if you are a baritone, but I can imagine that if you are a soprano it may frighten you a bit. (Perhaps you have been told that you must sing softly to begin with and that you should not practice too much on low tones.) Yet, unless you do practice the following exercise with a 'heavy register'—full robust voice—with the vowel formed according to the conception I have tried to give you, it will mean that you will simply be making sounds guided by your conscious ear— that is, you will be striving to make what you think is 'quality' right from the beginning, and that is exactly what I want you to avoid doing. As you sing the vowel, ask yourself not, "Does it sound 'nice' ", but, "Does it feel free and vigorous?" Don't forget about assuming the correct mental and physical attitudes while practicing at all times. If under a teacher, place yourself entirely under his command and pay not the slightest attention to how the tone sounds to you. When practicing by yourself, try to benefit by the theo-

retical information you have obtained and strive to develop as nearly as possible a perfect *mental concept* of what you are going to do before attacking the tone, not afterward.

Exercise A

Form vowel A as in Lesson I. Use Heavy Register as explained above. Begin on a very low tone to make sure that you are really using the pure 'heavy register'—about B flat below middle C or lower for women and about an octave lower for men.

1. Strike the note on the piano first before you sing it.
2. Get the mental conception of your ATTACK, which means that you must picture in your mind the correct PITCH and VOWEL. Have your throat *open and firm inside.*

IN ATTACKING A TONE BEWARE OF THE FOLLOWING DANGERS

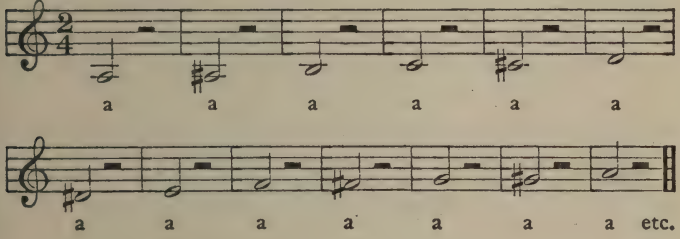
(a) Do not use the 'coup de glotte'—that is, with a 'click' in the throat. This would mean that the throat is not properly OPENED before the attack.

(b) Do not dig or slide into pitch commencing with the wrong intonation.

3. Do not control or explode the breath—just let it go with confidence and sing.

Practice this exercise within the range of about an octave. After a little while you may find that you can easily sing in this register a few tones lower than you did. Do not sing any higher than you can with absolute ease and without feeling any change of adjustment in your throat.

A (as in father)



Hold each note two short counts.

Repeat each measure four times.

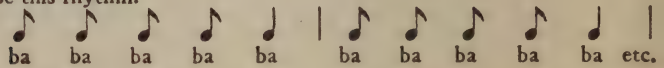
Say the vowel A in a low-pitched speaking voice as in Lesson I if in doubt whether you have established the real 'heavy register'.

Exercise B

Practice on single tones within the same range as in the previous exercise and in the same 'heavy register', but commence your attack with the consonant B. Remember that the consonant must

be as short as possible and be sure that the jaw is released from all tension. Be careful that you do not thrust the jaw forward. Let the jaw fall freely at the back or hinge. This is a good exercise for establishing a freer action of the jaws.

Use this rhythm.

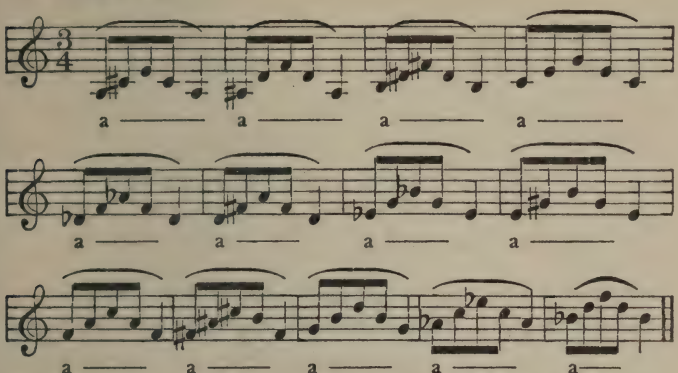


Be patient and do not practice on any tone that is either too low or too high in the scale to feel comfortable for a good robust vigorous tone. If you are a soprano, it may help you in getting a better conception of the 'heavy register' by thinking of this kind of production as a 'manly tone'. It will not be long before you will be agreeably surprised that your high tones will come with all the more ease as a result of the vigorous exercise given the entire mechanism by singing 'loud' on the very low tones.

Lesson III

In order to develop the 'heavy register', you must begin on the lower pitches and carry the register up. This is the purpose of the following exercise.

Heavy Register.



(At this point the beginner may find it easier to change the vowel ah to a as in "man.")

In practicing these triads you will experience no difficulty until you reach about C on the treble staff and there you may begin to feel that the voice wants to change into an entirely different quality—'break'. The problem here is every bit as much mental as physical. The higher the tone in the scale the *louder* it must be sung. Therefore, you must not resist, consciously or unconsciously, but simply think of the higher note in the scale not as a *high* tone but as a louder tone. Do not be afraid that an increase in intensity will make the tone sound too shrill or too 'shouty'. Beginners must sing their higher tones with a great deal of volume or otherwise the throat will collapse and you will have established that con-

flict of working against interfering muscles, which we are seeking to avoid. On the higher notes you may not be able to produce a good A sound, and it is far better to use the vowel A as in 'man' or the vowel EH and get a good clear 'heavy register' tone on these tones than to lose the adjustment which we are trying to 'carry up'. Remember, each tone higher in the scale should be sung just a little louder than the preceding one.

Practice the following exercise to get the natural mental concept of the above idea firmly implanted in your mind.

Say the sentence, "Hello, Bill", in a very low speaking voice, imagining Bill is standing very near you. Now imagine that Bill is walking away from you. Bill is a few feet away and you are calling him, "Hello, Bill". Now, Bill is a few more feet away, etc., etc. Note the natural rise in intensity with the pitch as you are calling to him, as he moves further away from you. See how many variations in pitch and intensity you can obtain using this exercise. This is good discipline for your imagination and a good exercise for your speaking voice as well.

As soon as you find that you can easily pass the point on the scale and in the same register where your voice continually wanted to change or break before, you will have established confidence, and

as you practice without paying especial conscious attention to developing any particular 'beautiful' quality, you will find that the quality will become all the better because you have not worried about it, but have allowed it to be governed by your subconscious mind. Therefore, as your tones become free from 'consciousness', they will be truer expressions of your real self.

Be patient. Do not try to force the voice up too rapidly. Be certain that you have one tone reasonably well produced before you try the next one. At the same time, do not hold yourself back. As long as your mental and physical attitudes are correct—that is, you are not setting up interference with what you are doing—do not be afraid to sing the 'heavy register' on the low tones and high tones, both with good volume. If, in order to do this, you feel that you must actually apply force to bring about the results as described in this lesson, you must learn the difference between singing elementary exercises *with force* and *forcing the voice* against the action of interfering muscles.

Singing *with force* may at the first stages of your progress make you somewhat hoarse, but this will be only the result of the stiffness of the vocal muscles, unused to such vigorous exercise, and will not only not be harmful but, on the

contrary, it will actually show that your laryngeal and pharyngeal muscles are developing. On the other hand, *forcing the voice* will undoubtedly cause irritation or inflammation in the throat that may destroy the voice entirely if persisted in continuously. The intelligent person will soon see the difference between the two kinds of *force,* and will use it to advantage in carrying the Heavy Register up to the higher pitched tones.

Lesson IV

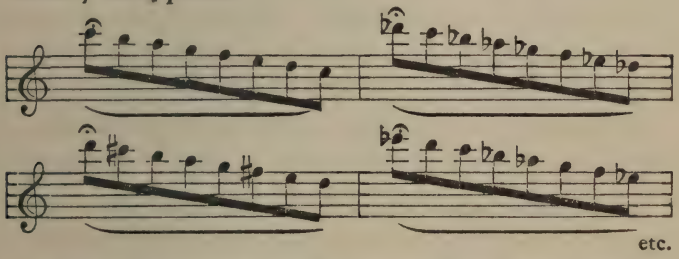
The purpose of this lesson is the development of the Light Register. In the man's voice this register may be called the Falsetto, because it sounds false or artificial. It is Nature's way for producing a tone either very high in pitch or very low in intensity with the greatest of ease. When a coloratura soprano uses such a light adjustment in getting a very high tone, it should not be called Falsetto at all, unless we wish to change the dictionary meaning of the word. When I use the word 'Falsetto', I shall only mean a tone that sounds either deliberately artificial, as the 'angelic' quality given to a tone in the case of certain renditions of religious songs, or in other dramatic effects where a sense of unreality is desirable, also in the very inartistic rendition of many of our singers of popular songs. In the case

of the female singer, in order to get the mental concept of the light register before practicing the following exercise, it is necessary that she imagine to herself a very light tone on a high pitch. Showing of the upper teeth and smiling on the vowel 'AH' will help to make this kind of a Light Register adjustment. In the case of men, the best way is to think of 'imitating a woman's voice'. Usually it is easier to do this on a high note, about a G or higher, and using a vowel that is somewhere between EE and I, (as in bit). A little experimentation will enable the singer to find the easiest vowel for the development of the light register. A man practicing this register should not expect any kind of good quality in this kind of production and should not hesitate the vigorous practicing of this adjustment because it sounds 'funny' or 'sissified'. He must remember that it is only a means to an end. When this register is developed, and the lower register becomes developed at the same time, the singer will find that he can give any note whatever quality he wishes, good or bad according to his taste. If his ideal is the 'Messa di Voce', he will easily be able to start his tone pianissimo as if he were going to sing a pure Falsetto and swell to a full vigorous tone, and then diminish it again to a pianissimo before ending it. Perfect development of the

'Light Register', (so-called Falsetto), means the ideal mechanical adjustment for tones very *low in intensity or high in pitch*. Perfect development of the 'Heavy Register' is the ideal preparation for production of tones *low in pitch and high in intensity*. When, by constant intelligent practice, you have reached the point where you can sing low or high, loud or soft, with perfectly natural ease, the matter of *beautiful* tones becomes a matter of your artistic taste. With very few exceptions, as in the cases mentioned, every tone you will produce then will be a 'Naturally Interadjusted Tone', consisting of both Low Register and High Register adjustments and differing from the unnatural Mixed Register because conflicting adjustments will be eliminated.

So that our task now is the practice of tones using the Light Register Adjustment, (or the Falsetto, as it is often called). You must experiment a few minutes to find which high note is best for you to begin the 'falsetto' or light register adjustment. It may be easier to start this on a note above high C in bringing the light register down the scale, diminish the volume as you go along. The falsetto on the middle tones will sound very soft, almost like a whisper when it gets very low. Be careful not to increase the volume as you descend, otherwise you will obtain a

'mixed' conflicting adjustment tone. With practice the pure falsetto will sound strong and clear in a short time, but it will be of a very thin quality unsuitable for use in singing songs. In the woman's voice, the 'light register tones', even when they are pure and very light will sound of a pleasant quality and may be used in the singing of high tones. The female should not use the very low Heavy Register tones when practicing songs. The male singer should absolutely avoid the use of the pure falsetto when singing songs and should not attempt to sing any composition the lightest tone of which lies higher than he can produce with a Heavy Register Adjustment, until both registers are properly developed and he is in a position to automatically select the proper interadjusted tone necessary for the required intensity and pitch.



Both registers should be practiced independently on *ascending* scales and triads with the volume increasing on each higher tone, and *de-*

scending scales and triads with the volume diminishing naturally on the descent. The first five tones in the major scale, or any of the conventional short musical figures may also be used for this purpose.

The time required for the proper development of both registers may be a few months or a few years, depending on the condition of your voice to begin with. The exercises in the following lessons should not be attempted until you have learned to produce a reasonably pure tone in each register. The encouraging thing, however, is that long before the two registers are perfectly developed you will find that during the actual singing of songs, or during the use of the speaking voice in lectures, etc., you have gained much in volume, quality, range and flexibility, providing, of course, that you have practiced these exercises faithfully and correctly.

Lesson V

Although the vowel is the quality and is in reality continually changing with the variations in intensity and pitch, for practical purposes we may divide the vowels into two classes—those that are *pure,* and those that are not pure, (diphthongal). For example, the O in 'post' is not a pure vowel because it is really composed of two

simpler vowels, O (as in 'OH') and U, (pronounced like the OO in the word 'moon'). The following exercise is for the purpose of practicing the correct formation of the vowels, using the pharyngeal cavities, (throat), as the main resonator of the voice both for the fundamental and the vowel. The main point to remember is that the lips *should not be used* for the formation of the vowels.

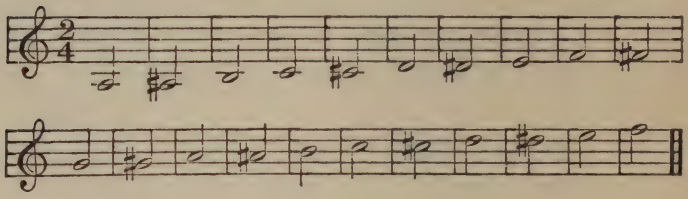
In practicing the exercises that are not marked either Heavy Register or Light Register, it is best for the pupil not to think of these tones in terms of registration. Until you have reached the stage of progress where you can produce each tone with a perfectly non-conflicting inter-adjustment between both registers, and when not practicing the exercises in the previous lessons for the isolation and development of each register, it is best to sing or speak without conscious attention to registration. However, bear this rule in mind. The male singer should not use the falsetto and the female singer should avoid using the extreme 'manly' sounding, low-pitched Heavy Register tones, except for the purposes as explained before.

As you begin a new lesson, you are not to consider that you have finished with the previous lesson. Each exercise has its specific purpose and should be practiced throughout your entire

career. An artist is *never* finished with practicing fundamentals.

Exercise A

Each measure four times.



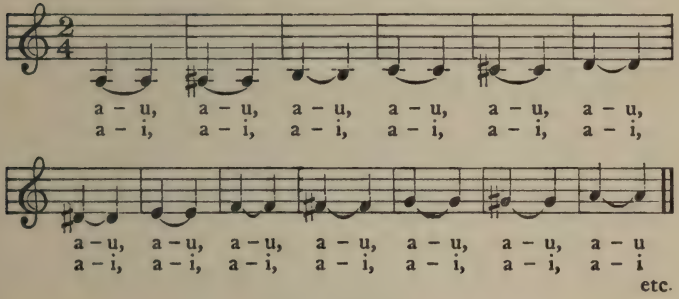
Sing using:

1. A (AH). Form the *A in the throat,* the mouth open comfortably.
2. E (as in men). Mouth open and the lips the same as in A, but the tongue will make a slight automatic adjustment.
3. O (OH). Slightly smaller mouth opening for O. Otherwise same position as for A.
4. I (EE). Do not protrude the lips or pay any attention to the action of the tongue. Simply bring the teeth closer together until you can say the vowel comfortably without changing the shape of the lips which should be the same as in the preceding vowel.
5. U (OO). Mouth almost closed. Same position as in the previous vowel. Think of the U as formed in the throat. Remember, it

will *not* sound throaty unless you are *afraid* that it will.

Exercise B

Each measure four times. Carry up the scale but not too high, so as to become uncomfortable.

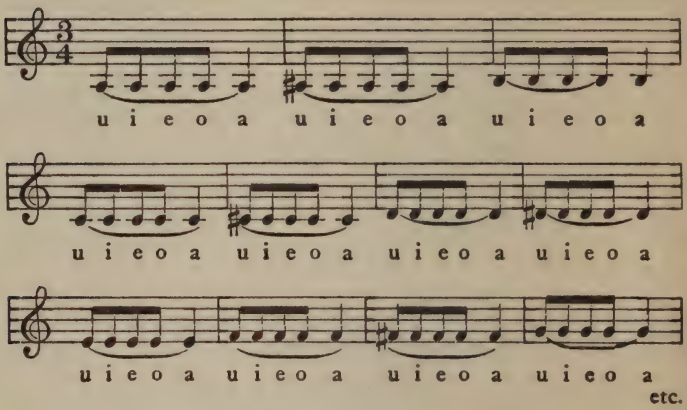


Join the two vowels smoothly and let the jaws swing loosely. Practice the joining of the vowels AO and AE on the above exercise, BUT DO NOT swing your jaws. There is no movement of the jaws necessary to change from A to E or O, or from O to A or E.

Exercise C

Each measure four times. In the following exercise your mouth should be almost closed with your teeth close but not touching on the *U and I* and should *open freely* on the *EOA,* keeping the

lips in the same natural position throughout. Allow the tongue to act automatically and avoid all stiffness.



Lesson VI

The purpose of this lesson is to exercise the tongue in order to make it more flexible. In spite of the fact that many teachers still insist upon giving definite directions for tongue positions, such as holding the tongue flat and touching the bottom teeth, etc., modern science shows that, if persistently continued, such exercises must really impair the voice on account of the interference this causes in the pharyngeal adjustments for resonance. It must be admitted, however, that in some extreme cases when the condition of the tongue is very abnormal, there is really nothing

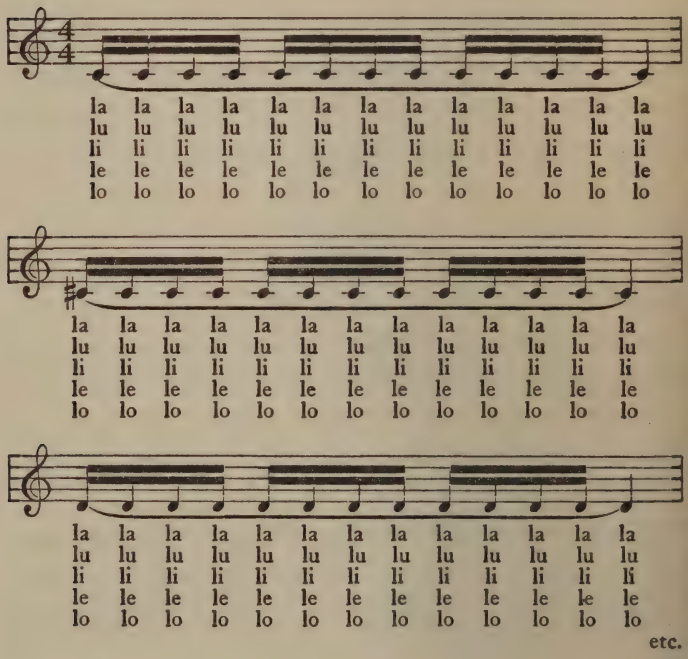
left for the teacher to do than to give definite instructions for tongue positions, carefully and for a short period. If the reader of this book should be unfortunate enough to be one whose vocal organs are in a very bad condition organically, he should first consult a throat specialist before attempting the study of voice. If the difficulty is mostly functional, the expert voice teacher can be of great help also. The lessons in this book are for the individual whose vocal organs function normally and have not been abused too greatly by wrong 'training'. The following exercise, however, is very useful because it will loosen the tongue by making it work more vigorously than usual in a perfectly natural manner.

Exercise

Try to keep the jaws as *quiet as possible,* and move the tongue vigorously from the roof of the mouth downward. Practice slowly at first, then increase the speed.

Again I shall remind you not to sing softly on these exercises. Let yourself go. Do not let *fear* hold you back. Do not try to fool yourself by saying that you have to sing softly—otherwise you are afraid you will shout. *People who shout are really trying to convince themselves that they are*

not afraid. (This is called a 'defense mechanism' by psychologists.) So that if you sing without fear your voice will neither sound 'shouty' nor 'held back'. It will be a naturally loud MF. After your vocal organs become developed, you may sing as 'piano' as you like, but it will then no longer sound as if you were 'holding yourself back'. It will be like the soft tone of a 'great organ' with a suggestion of strength, not weakness, behind it.



Lesson VII

It is said by some voice specialists that we do not hear ourselves correctly. That to me is a statement that is not truly scientific. Who does hear anything correctly? It is known that the ear is an imperfect instrument and that there are differences between people's ability to hear certain vibrations. It is quite true that we do not hear ourselves as others hear us. The mechanism of our ears is such that the 'inner ear' can be so affected by certain tensions in the vocal muscles that a very 'poor tone' may sound pleasant to ourselves. But on the other hand as soon as we have really learned how to produce tones that are judged as 'good tones' by someone else outside of ourselves, in whose taste we have confidence, we have a very excellent gauge by which to judge the quality of our tones. A trained singer hears when he produces a good tone and when he does not. But he also knows that he must not rely entirely on his own judgment and is the first one to ask the teacher for a 'check up'. While it is true that we must not rely solely on our own taste when we first begin the practice of tone production and 'listen continually for quality' while developing the vocal organs, we can not

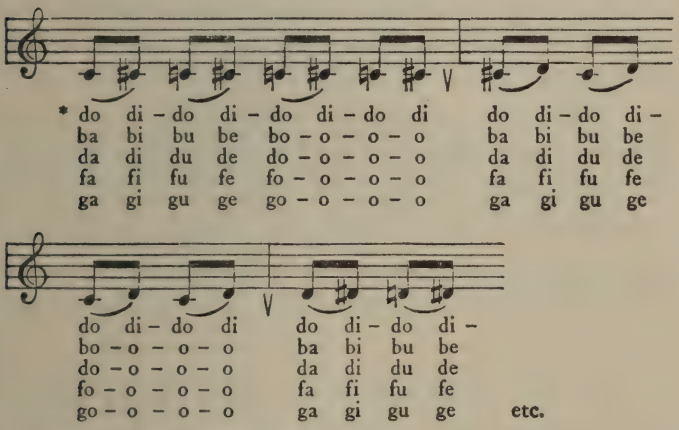
help listening to ourselves whether we wish to or not. To strive consciously to listen attentively to the tone we produce and 'make' a certain 'quality', would undoubtedly arouse a feeling of 'anxiety' that would reflect itself physiologically by making the vocal cords act in a clumsy unnatural way. The tone would therefore sound 'artificial'. On the other hand, to say that since we can not hear ourselves as others hear us, we must not practice exercises by ourselves at all and try not to 'listen' to the tones we produce is something that can not be taken seriously by an intelligent student. Between these two extreme positions lies the truth. Train your ear constantly. Listen to the tone always, yet at the same time do not continually 'listen for that certain quality' that you think ought to be there and spoil the benefit of the tone production exercises by trying to build tone quality by 'ear'. It sounds paradoxical or contradictory, doesn't it? Yet this will not seem really so strange to the serious intelligent student who probably has already found out for himself that life is full of such problems where the truth must be considered as some relative conception between two apparently conflicting extremes.

The following exercises, if practiced seriously

and patiently, will enable the beginner to 'unbutton his ears'. The advanced student will also benefit by ear training. It is good to refresh our faculties by systematic vigorous exercise. The use of the different consonants in these exercises will also serve the purpose of affording practice for correct enunciation.

Exercise A

The distance between Do and Di is a half step and is known as a minor or small second. Practice until you can sing this interval without the piano.

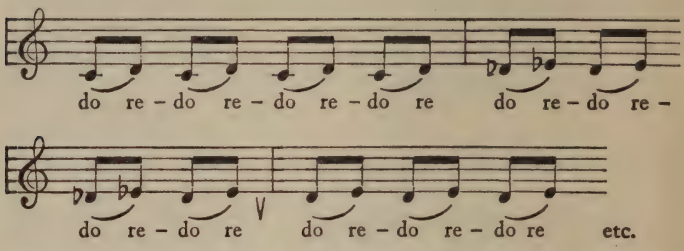


(Practice using all consonants).

* Syllable names used in sight reading.

Exercise B

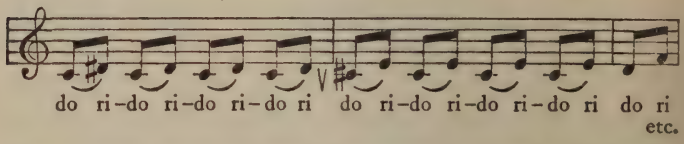
The distance between Do and Re is a whole step and is known as a major or large second. Memorize.



(Practice this exercise using all consonants combined with the five vowels as in Exercise A.)

Exercise C

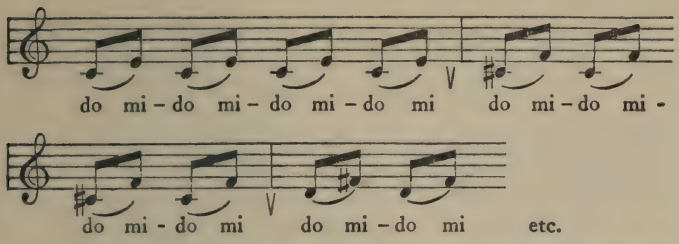
The distance between Do and Ri is a step and a half and is known as a minor or small third. Memorize.



(Practice this exercise using all consonants combined with the five vowels as in Exercise A.)

Exercise D

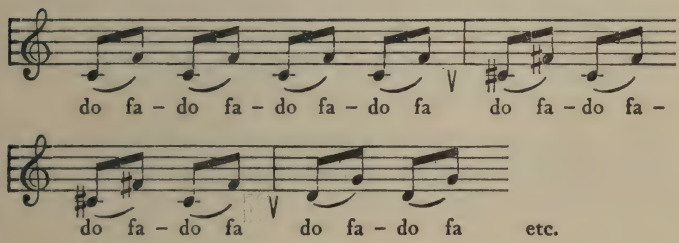
The distance between Do and Mi is two whole steps and is known as a major or large third. Memorize.



(Practice this exercise using all consonants combined with the five vowels as in Exercise A.)

Exercise E

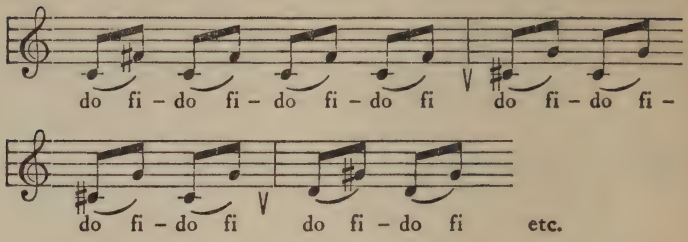
The distance between Do and Fa is two and one half steps and is known as a perfect fourth. Memorize.



(Practice this exercise using all consonants combined with the five vowels as in Exercise A.)

Exercise F

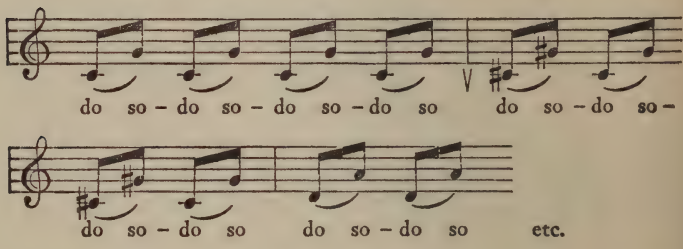
The distance between Do and Fi is three steps and is known as a minor fifth. Memorize.



(Practice this exercise using all consonants combined with the five vowels as in Exercise A.)

Exercise G

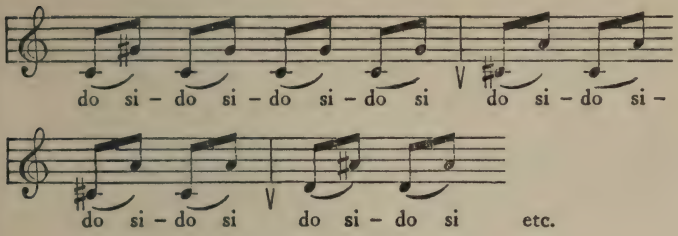
The distance between Do and So is three and one half steps and is known as a perfect fifth. Memorize.



(Practice this exercise using all consonants combined with the five vowels as in Exercise A.)

Exercise H

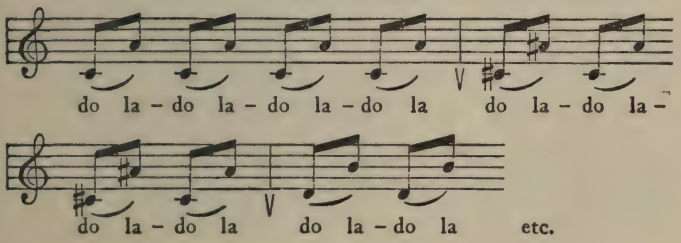
The distance between Do and Si is four whole steps and is known as a minor sixth. Memorize.



(Practice this exercise using all consonants combined with the five vowels as in Exercise A.)

Exercise I

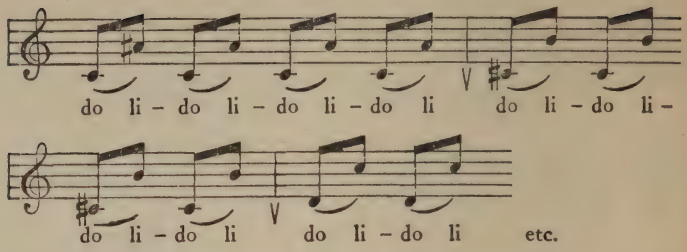
The distance between Do and La is four and one half steps and is known as a major sixth. Memorize.



(Practice this exercise using all consonants combined with the five vowels as in Exercise A.)

Exercise J

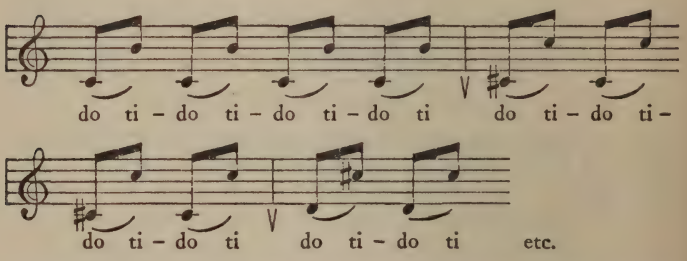
The distance between Do and Li is five whole steps and is known as a minor seventh. Memorize.



(Practice this exercise using all consonants combined with the five vowels as in Exercise A.)

Exercise K

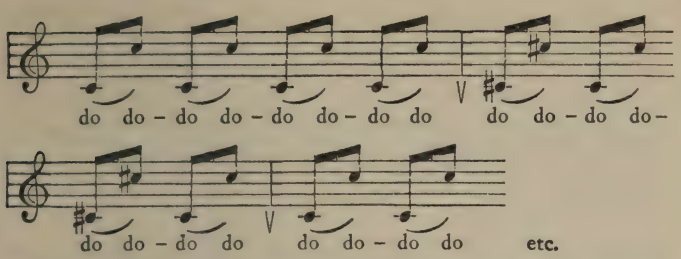
The distance between Do and Ti is five and one half steps and is known as a major seventh. Memorize.



(Practice this exercise using all consonants combined with the five vowels as in Exercise A.)

Exercise L

The distance between Do and Do is six whole steps and is known as an octave. Memorize.



(Practice this exercise using all consonants combined with the five vowels as in Exercise A.)

Lesson VIII

The practice of correct humming as a valuable exercise has been recognized by many teachers. The sounds M and N are used for this purpose and also words ending in ng, such as Hung, Ming, etc., for 'inducing nasal resonance'. But 'inducing nasal resonance' is not considered any longer a correct theoretical statement in the light of modern scientific research. In practice it may mean that the pupil may be in danger of constricting the palate to the extent that an unpleasant 'nosey' sound may be made. However, under the guidance of a good teacher or when the student himself has the proper 'mental concept', the 'nasal color' resulting from the use of these true nasal sounds is very pleasant. It is said that Caruso could hum imitating the playing of a cello to perfection. Some authorities claim that humming

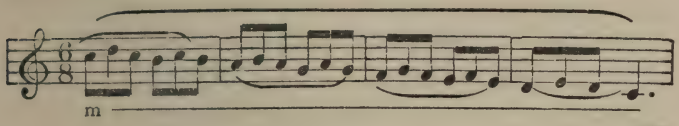
is the only way that you can produce a tone that is almost all 'fundamental'; and of course from that standpoint it would be a good exercise to be used as a basis of a tone free from unpleasant overtones. Humming requires no tongue action and is very easy on the larynx. It should be the easiest thing for the singer or speaker to do, and is a good way in which to begin learning a new song or a technical musical figure.

Just as we have learned that trying to produce a tone that is *not in the throat* is the surest way of generating 'fear' and resulting in a badly-produced 'throaty sound', so you will find that if you try to sing M or N or NG and not make them 'nasally' you will surely obtain a distorted 'nosey sound'. I know this is contrary to the teaching of many of the voice teachers who tell their pupils, "Hum, but don't make it sound nasal. Do not sing 'AH' in the throat", etc. However, it is in accordance with well-known psychological laws.

Exercise A

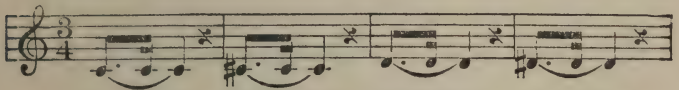
Close the lips, tongue against the roof of the mouth but not high or stiff. Imitate the sound of a cello. Transpose the exercise descending as low as convenient and not much higher than C in the third space. Do not strain the voice by trying to

hum in as high a pitch as you can sing some of the vowels. Use the consonant M.



etc.

Exercise B



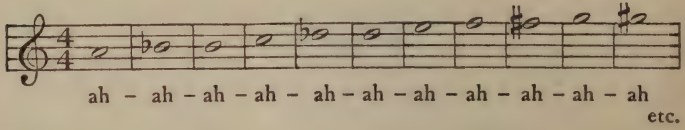
etc.

Lesson IX

The average person listening to a singer will often note that the voice is either 'even and steady' or 'disagreeably wobbly'. However, after it is explained to the musical listener that any tone louder in intensity than a pianissimo, (or extremely soft tone), must possess a natural 'throbbing' as a result of the free rhythmical movement of the thorax, and that actually the nervous impulse starts the tone and stops it in a rapid movement that gives us the illusion of unbroken continuity, he can easily note the 'vibrato' in the tones of the good singer. This 'vibrato' is not the same as the disagreeable wobble which is called the 'tremulo'. The tremulo is the result of

incorrectly used weak muscles. In the normal individual the consistent vigorous exercising of the vocal organs in the proper manner will cure this particular weakness. The vibrato should come as a natural result of the correct use of the vocal cords because if the voice is otherwise properly developed it will not lack this necessary characteristic. Nevertheless, as in the other phases of voice culture, it is often advisable to undertake some special exercises for the purpose of giving the pupil a good conception of the 'vibrato action'. These exercises should not be attempted by a pupil until he is quite advanced in his technical development.

Exercise A



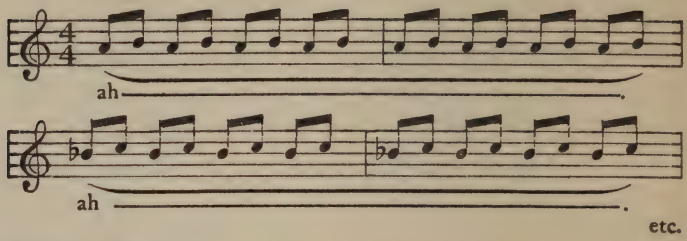
As you sing the tone imagine that it consists of an even number of parts—let us say, eight—and that the tone starts and stops instead of continuing in one straight line. But do not actually stop the flow of the tone as you sing. Keep the muscles of the thorax relaxed. Feel the movement of the diaphragm by placing your hand over it. You may do this only for a little while, until you get

a good conception of the vibrato; but remember that conscious attention to the workings of the diaphragm, if continued too long, may have the opposite result from what is intended. To the average pupil this exercise will be of benefit because it will 'come fairly easy'.

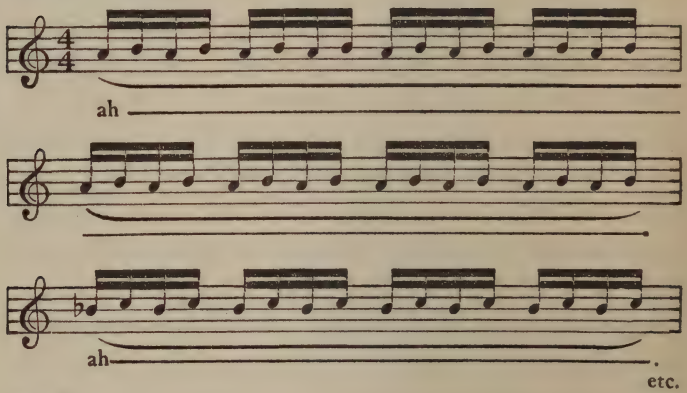
Exercise B

Play this exercise over a few times. Get the intervals firmly established in your mind. First practice slowly with the emphasis on the upper notes. Gradually increase the speed until you feel that the two tones in the 'shake' seem to 'come out' as if without the slightest conscious effort on your part, clearly and easily, very rapidly yet *without one of the pitches being lost,* (which will happen if you commence to trill too soon). This may come very easily to some and for others it may require a good deal of practice. Even if you never use a 'trill' in your singing this is an especially good exercise for improving your general technic and obtaining a better vibrato.

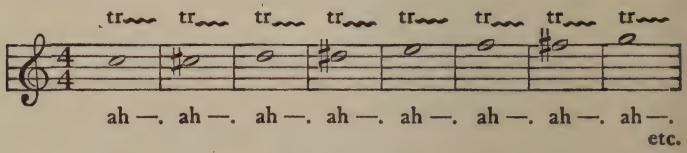
Slow Shake.



Rapid Shake.



Trill.



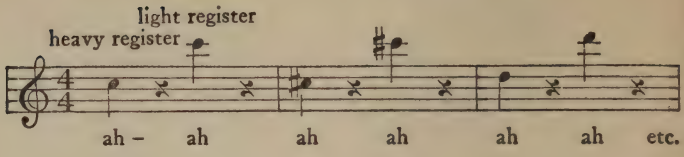
Lesson X

As through diligent practice you have reached the stage where your range and volume have been

improved to an advanced degree by the process of the isolation and separate development of each register, you will find that the vigorous treatment given the entire vocal mechanism will make it very responsive to your demands for the various qualities or colors of tones as guided by your artistic taste. In other words, as you sing a song or make a speech, the strengthened and naturally-acting vocal muscles will react in the proper manner and make the necessary interadjustments to produce the tone-quality dictated by your subconscious mind. The following exercises are for the purpose of enabling you to produce a finished tone varying in intensity from pianissimo to a very loud tone. If you find this easy to do without any breaks in the continuity and smoothness of the tone, it means that you have reached the stage of development where there is perfect interadjustment between the various muscles of the entire vocal mechanism.

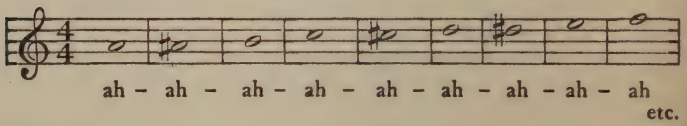
Exercise A

Sing the low tone in a heavy robust register, stop, then sing the high tone in a clear 'falsetto' or light register. Be sure that each register is as 'pure' as possible.



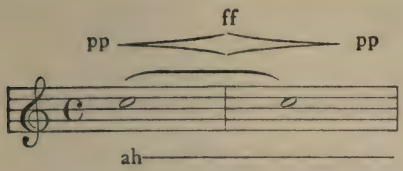
Exercise B

Start the tone in a clear light or 'falsetto' register, pianissimo. Swell it gradually on four counts to a real fortissimo, then change the registration to the Heavy Adjustment as smoothly as possible.



Exercise C

To be able to commence a tone piano, swell it to a good fortissimo, and then gradually diminish it back to piano, keeping throughout evenness in quality, will give you the satisfying feeling that you have real control of the action of your voice. This should be practiced only by the *very advanced* pupil, mainly because it is dangerous for the beginner to practice the swelling of *soft* tones, which he usually produced by constricting his throat under the delusion that he is 'relaxing' it. The kind of tone used in this exercise is known as the Messa di voce.



Lesson XI

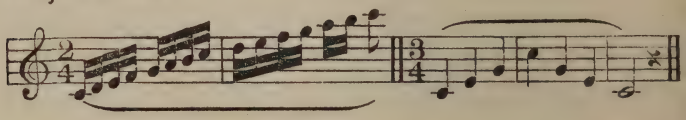
In addition to being able to produce a good tone, it is necessary to possess TECHNIC. By that I mean 'acquired skill and dexterity in actual performance'. To be able to execute an intricate musical figure at a good speed without losing accuracy or quality is an indication of 'technic'. A radio announcer who emphasizes each word, speaks slowly and breaks up his phrases may be said to possess no technical ability. Nothing is more helpful to the singer for the development of technic than the careful practice of scales and arpeggios, slowly at first, gradually increasing the speed, *but not until accuracy has been obtained at a slow tempo.*

The following exercises should be practiced in STACCATO as well as LEGATO. In practicing the 'staccato' be sure that you use the same ATTACK that you use in the production of all good tones; that is, do not let a slight amount of breath escape first before you start— (Be careful that you do not use an H sound before the vowel) —and do not use the 'Stroke of the Glottis'—that pecu-

liar 'click feeling' in the throat. Make the tone *as if* you were going to sing a good legato and then stop the tone very abruptly, but not awkwardly.

The following three scales are the scales most commonly used in the composition of Occidental music. A thorough knowledge of them is essential. Study them until you can sing them from memory. It is helpful for this purpose to learn the syllable names of the notes in each scale. Since the main purpose of this book is 'tone production', space does not permit us to go extensively into the subject of musical forms. However, serious students will have no difficulty in obtaining exercise books that will give them any number of runs, embellishments and scales other than those given here, which they must conscientiously study from the standpoint of musicianship.

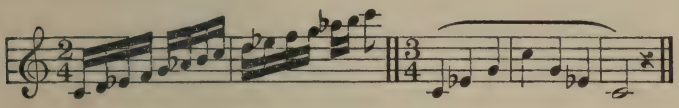
Major Scale



1. Learn the syllable names—Do, Re, Mi, Fa, So, La, Ti, Do.
2. Sing staccato, using the vowels A and O.
3. Sing legato, using the vowels A and O.

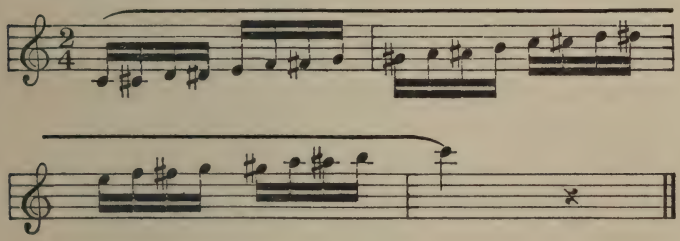
4. Transpose into other keys and increase speed. (The first tone of any scale is Do, regardless of what key it is in.)

Minor Scale



1. Learn the syllables—Do, Re, Me, Fa, So, Le, Ti, Do.
2. Proceed as above.

Chromatic Scale



1. Learn the syllables—
   (ascending) Do, Di, Re, Ri, Mi, Fa, Fi, So, Si, La, Li, Ti, Do.
   (descending) Do, Ti, Te, La, Le, So, Se, Fa, Mi, Me, Re, Rah, Do.
2. Proceed as above.

Lesson XII

In the preceding lessons emphasis has been laid mostly on the fact that tones have to be produced in accordance with certain rules or laws based on physiology, acoustics, etc., before it can be said that the voice is acting 'scientifically', or 'naturally', or 'correctly', whichever term you care to use. In other words, we were developing a 'Stradivarius-violin-type-action-voice.' And why not? Should it not be the desire of every musician to possess the best possible instrument? Yet we must not forget that there is nothing beautiful in a 'Stradivarius violin tone' in itself. The tone is only beautiful when *the mood of the performer* is such that he can awaken a certain emotional reaction in you that *you think and feel is beautiful.* A tone without 'feeling' is a dead, useless, meaningless sound. All the money and time you spend on voice training will not teach you to sing 'beautiful tones' unless you have within you a powerful impulse to react with 'musical sounds' to emotional stimuli. Like a lark under the mysterious stimulus of radiant sunlight, the performer who possesses the 'singing impulse' simply *must* sing. Have you that natural singing impulse that springs from some source deep within your soul? I don't care whether it is hereditary or the

result of early musical environment. What I want to know is, when you are happy does some lively melody run through your mind? When you are sad does some slow minor tune creep into the very fibre of your self? When you are on the train does the constant rhythm of the moving wheels over the tracks suggest songs, melodies, harmonies? Do you get excited when you hear music? Do you really *feel* something when you sing? If your answer is 'No' to the above questions, there is no doubt in my mind that you may be a good business man or politician or anything else but never a musician. Music is the sublime language of the emotions.

Let us see if we can practice the scales with 'real feeling'. Can we not arrange them in such a manner that they will actually bring out certain moods? We need to develop our imagination. Practice the following exercises for the purpose of 'putting feeling' into your tones. Then they will really be beautiful. In addition to the exercises given in this lesson, take some song that you like and divide it into phrases. First, practice each phrase as if it were just an exercise, on some vowel like AH or OH. Then practice the 'exercise' as if it were a song. The first is the scientific approach and will develop your technic. The second is the artistic way and will help develop

your creative ability by stimulating your imagination or emotion.

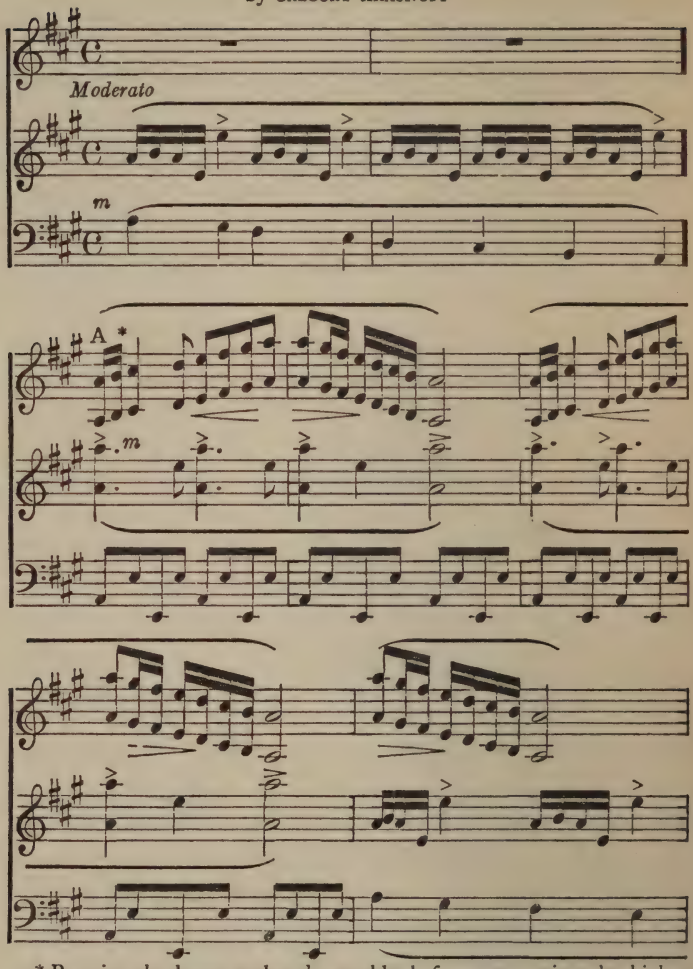
In the following exercise nothing except the major, minor and chromatic scales are used. In the first part the major scale is repeated over and over again. The mood is obtained by variation in rhythm and the piano accompaniment. As in all songs, the singer must consider himself as a part of a duet and not merely as a soloist with a piano playing the minor role of assisting him in his performance. In the first part the mood intended is that of JOY. Imagine a caravan starting out on its journey. Everyone is happy. In the second part the slowing up of the tempo and the changing of the scale from the major to the minor suggest more or less the mood of SADNESS—thoughts of loved ones left behind, etc. In the third part a quickening of the tempo and the use of the chromatic scale brings the mood of FEAR. Something is happening to arouse the anxiety of the members of the caravan. The major scale used again as in the first part easily brings on the mood of a 'happy ending'.

It is said that a great actress once thrilled her audience by reciting the 'alphabet' of a foreign language in such a way that the effect was the same as if she were rendering some very dramatic poem. In the same way the musician must prac-

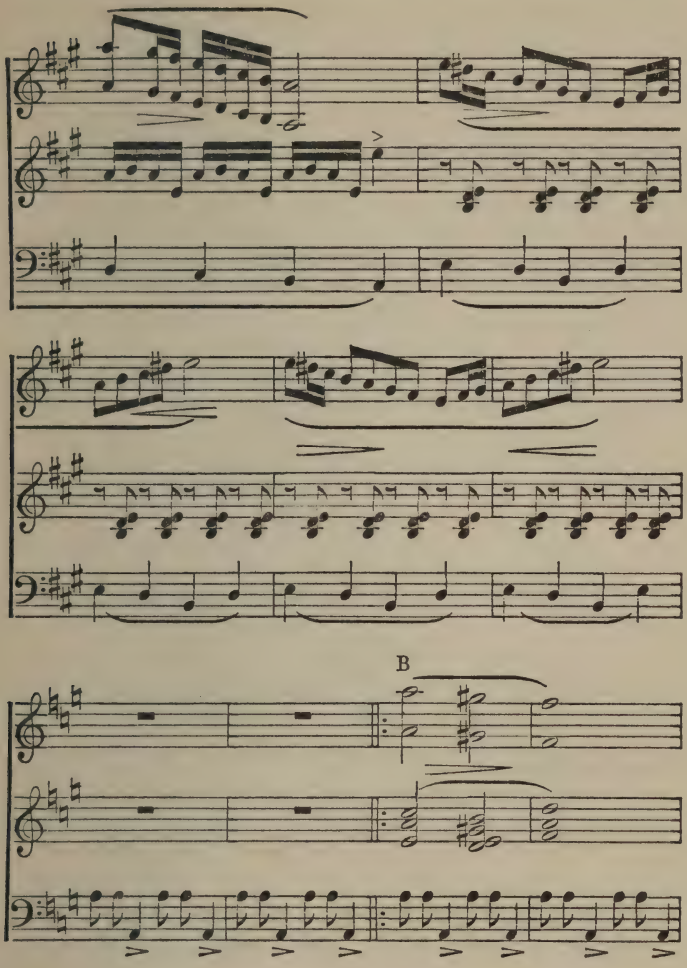
tice to make his music alive and full of 'meaning' outside of the mere meaning of the words in themselves. This does not mean that the words of a song are not important. To make them effective they must be studied by themselves and recited without the melody until they sound thoroughly convincing. Then you can make your song doubly effective using the music to appeal to the 'heart' and the words to appeal to the 'head'.

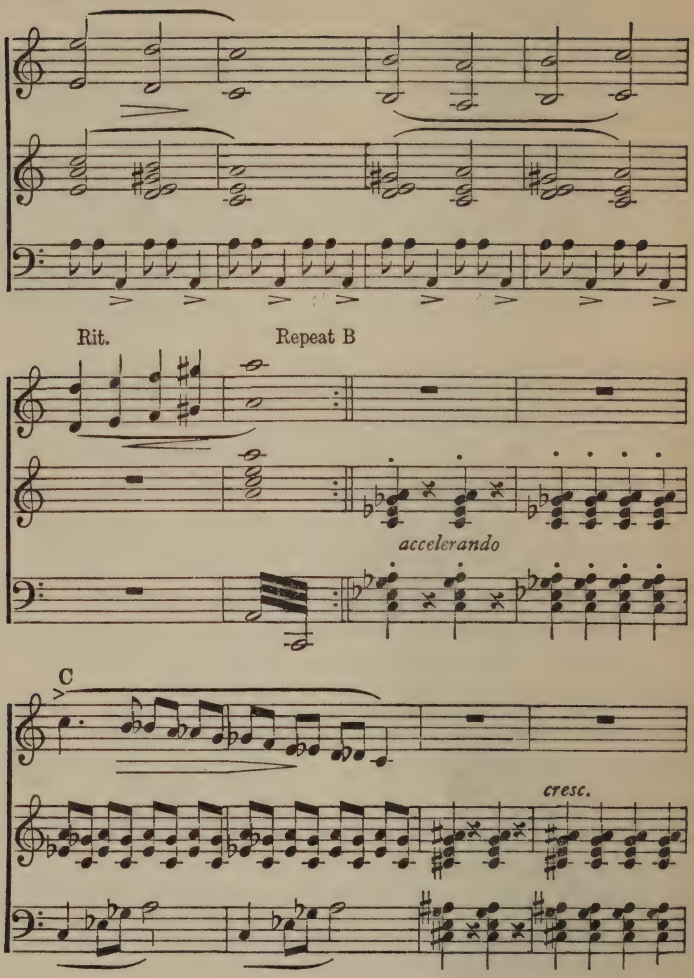
Melodious Scales

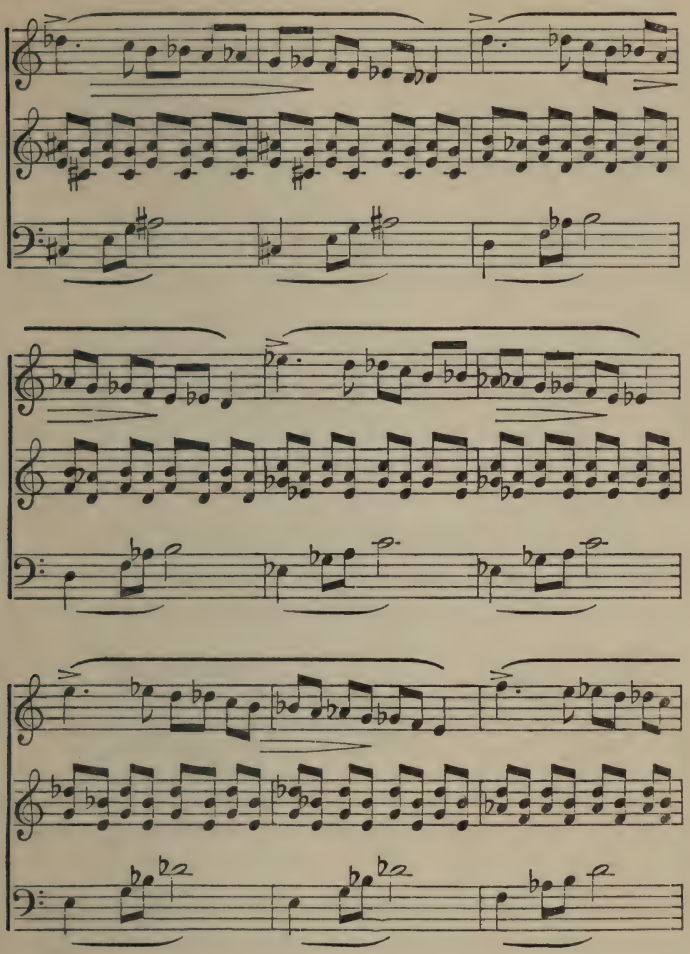
by GREGORY KRASNOFF

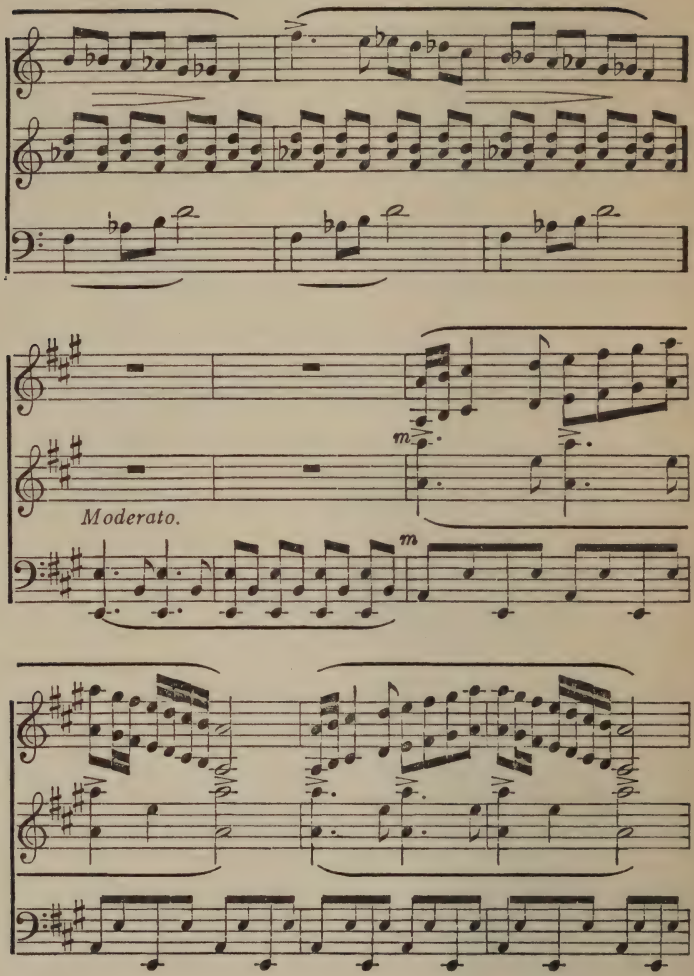


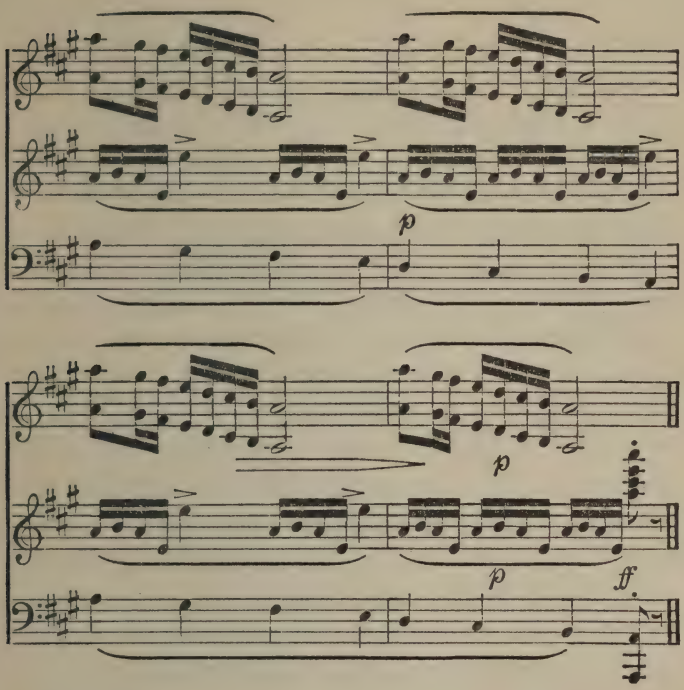
* Practice the lower scales thoroughly before attempting the higher pitches.


B


Rit.
Repeat B
accelerando
C
cresc.




Moderato.
m
m


p
p
p
ff

CONCLUSION

In studying a song or a dramatic reading the first thing to do is to read it as a whole to see if you understand its meaning in general. Be honest with yourself. If you can not explain any word in other terms, your knowledge of its meaning is too vague. Consulting the dictionary often is a good mental exercise for any of us. Read each sentence aloud in a low-pitched voice. Imagine you are reading to someone else and try to be *convincing*. Do not emphasize every word in the sentence under the delusion that you are practicing 'clear diction'. Experiment until you decide which words require emphasis and which do not. Practice before a mirror watching your facial expression which must be in accordance with the emotion you wish to convey. Don't say, "I am happy", and look, "I am uncomfortable". Unless you are making an impromptu speech, *memorize well* anything you are going to present. Nothing will give you more confidence than 'to know you know'. If, after you are thoroughly confident that you know your 'piece' and still feel 'stage frightened', console yourself with the thought that many of the most successful performers feel

stage fright before they 'go on', but this kind of a fear, if not carried to excess, is *actually beneficial* rather than detrimental. The adrenalin that is sent into the blood stream as a result of this 'excited' condition stimulates the performer and gives him added zest instead of injuring him.

Practice the music of the song separately from the words. Hum the melody until you are sure of it. Sing it on some vowel in a key four or five tones lower than written until it feels very 'easy'. Then sing it with the words, raising its pitch a little higher. Finally sing it in the original key. You will find that the 'difficult spots' in the music will have vanished. Divide the song into phrases and practice each one separately as an exercise in order to improve your technic. Mark the places where you are going to take a breath. Do not destroy the rhythm of the music or the sense of the words by 'chopping up' a phrase. Familiarize yourself with the accompaniment. When the pianist plays a part where you are not singing, sing that part 'mentally', and hold the facial expression 'as if' you were actually performing. This is absolutely necessary if you wish to sustain the moods artistically.

I wish to say a few words about the English language. As a native Russian, who learned your language in this country, it will not seem im-

modest if I say that I see no convincing reason why for so many years the Americans have labored under the delusion that English is not as musical as some of the foreign languages. It may be true that Italian is somewhat easier to sing in because it possesses only 'pure vowels', but outside of that I say sincerely that I was never so thrilled by the sound of anything as I was when I heard Shakespeare in the original language. My life in different parts of the globe has made me 'internationally minded' and familiar with several languages including, of course, my native Russian, but I do not know of any language that lends itself any more beautifully to the drama or opera than the English language as spoken by cultivated people. On account of the newness of art in general in this country, the music teaching profession has been for many years mostly in the hands of foreign teachers, many of them still retaining foreign accents after living in this country as long as a half a century. Never having learned English properly, how could they like it or teach it to their pupils? The easiest way for them was to create the impression that the inferiority was 'in the language'.

In conclusion I express the hope that I have been successful in helping you solve the problem of developing your voice. I also make this plea.

Aim high! Singing for art's sake is as useless as loving for love's sake. Continual concentration on improving yourself can also be carried to an extreme. Think of the lives of our great immortals. What can we do better than to follow their example? Most of their time was taken up with improving the world not themselves.

There is no 'art'. There is—'only a people struggling to express themselves'. Only those who express themselves in the lofty task of working for humanity's welfare may be called artists.

Whether you sing or speak USE your voice and USE IT FEARLESSLY TO CHANGE THE WORLD. Be an artist!

THE END